

1 Panpsychism and the Ontology of Mind

1.1 The Importance of Panpsychism

The nature of mind has been an enigma since the beginning of recorded history. In many ways it is as much a mystery today as it was to the ancient Greeks. We now know much more than the Greeks did about the brain and human physiology, and we have intricate and detailed philosophical concepts, and yet we seem unable to reach any kind of consensus on what mind is or how it is related to the body or to matter in general. The enigmatic nature of mind is so pervasive and compelling that some current philosophers have given up on the problem, calling it intractable or unsolvable *in principle*.

The difficulties surrounding mind seem, at the very least, to call for a deep reexamination of the problem. Most current theorists carry with them two basic assumptions: (1) that mind is limited to humans and perhaps the “higher animals” and (2) that mind is somehow dependent on or reducible to the physical substrate of the human brain. (Others go to the opposite extreme and hold that mind is really a soul, something distinct from the body and fundamentally nonphysical; I will put this view aside for the moment.) Point 1 is usually taken for granted and rarely argued for. Point 2 implies a belief that there is something fundamentally unique about human and animal brains, and that they alone among all the physical structures of the universe can support mental processes. This second point is conceivably true, but no one has given a plausible account of why this might be so. Certainly there are unique physical characteristics of the human brain (the number and density of neural cells, the modes of input for sensory information, and so on) that most likely account for our uniquely human mental capabilities: our abilities to reason, to experience rich emotions and feelings, and to hold beliefs. But we have found nothing so unique as to alone account for the presence of a mind. What is at issue

is *not* the nature of the uniquely human mental capabilities, but rather a *general understanding* of the phenomenon of mind in its largest sense.

Many thinkers, past and present, have seen fit to challenge the above two assumptions. On the basis of their investigations of the natural world, they have viewed such assumptions as largely unfounded. For such thinkers there is no reason to limit mind to humans and (perhaps) higher animals; in fact, they have reasons—both intuitive and rational—to claim that mind is best conceived as a general phenomenon of nature. As such, mind would exist, in some form, in all things. This concept is called panpsychism.

Panpsychism, roughly speaking, is the view that all things have mind or a mind-like quality.¹ It is an ancient concept, dating back to the earliest days of both Eastern and Western civilizations. The term ‘panpsychism’, introduced by the Italian philosopher Patrizi in the sixteenth century, derives from the Greek ‘*pan*’ (all) and ‘*psyche*’ (mind or soul). The theological implications of soul are largely set aside in the present work; at issue is the notion of mind as a naturalistic aspect of reality.

Panpsychist theories generally attempt to address the nature and classes of things that possess mind and, perhaps more important, to address what precisely one means by ‘mind’. These two issues—the nature of things and the nature of mind—are, of course, central to many aspects of philosophy. Panpsychism, however, lies at a unique intersection of the two concepts, where mind is seen as fundamental to the nature of existence and being. If all things have mind, then any theory of mind is necessarily a theory about ontology, about the nature of extant things.

Panpsychism is distinctive in two further ways.

First, it is a unique kind of theory of mind. More correctly, it is a meta-theory of mind. It is a statement *about* theories, not a theory in itself. As a meta-theory, it simply holds that, however one conceives of mind, such mind applies to all things. For example, one could be a “panpsychist dualist,” holding that some Supreme Being has granted a soul or a mind to all things. One could be a “panpsychist functionalist,” interpreting the functional role of every object as mind, even if such a role is only to gravitate or to resist pressure. One could argue for a “panpsychist identism” in which mind is identical to matter, or a “panpsychist reductive materialism” in which the mind of each thing is reducible to its physical states. In fact panpsychism can parallel almost every current theory of mind. Nearly every concept of mind can be extended to apply to all things, whether living or nonliving. The only theories not applicable are those that deny mind altogether and those that argue explicitly that, because of some unique physiology, only biological organisms, or only *Homo sapiens*, can possess mind.

Such theories, though, are rare and unconvincing. In order to qualify as a complete theory, a panpsychist outlook must be complemented by a positive theory of mind that explicitly describes how mind is to be conceived and how it is connected to physical objects. Some philosophers have expressed an intuitive belief that all things have minds, or that all are animate, but then neglected to specify in detail a conception of mind that fits within this broad framework. (Not that intuitions are unimportant; in fact, one objective of this book is to show that intuitions are important and that even if expressed vaguely they can serve as useful pointers to those seeking a more complete account of mind.) This neglect is unfortunate, as it often leads to unjustified criticism of the meta-theory of panpsychism itself.

Second, panpsychism has played a unique part in the history of philosophy. To begin with, it is almost certainly the most ancient conception of the psyche. In the forms of animism and polytheism, it was probably the dominant view for most if not all of the pre-historical era. Eastern cultures have a nearly continuous record of panpsychist writings, right through the modern era. It was also widely accepted, though not often explicitly argued for, in the early years of Western thought. Aristotelian philosophy and Christian theology emerged and subverted it for a number of centuries, but it made a comeback with the naturalist philosophers of the sixteenth century. Panpsychism was then still a minority view, but support for it grew steadily in the seventeenth and eighteenth centuries, reaching a zenith in the late 1800s and the early 1900s. With the advent of logical positivism and analytic philosophy, panpsychism was once again driven down, along with most metaphysical theories, to a relatively low standing. In the past few years there has been a resurgence of sorts, and in certain circles panpsychism has once more become a topic of serious philosophical inquiry. The present work intends to add some impetus to that resurgence.



For most of humanity, for most of history, panpsychism has been an accepted and respected view of the world. Thus, it would seem to reflect, if nothing else, a universal human impulse. An appreciation of this may serve to mitigate criticisms by certain contemporary thinkers who find panpsychism outrageous or absurd, as if to imply that no reasonable person could hold such a view. More to the point, it is a matter of fact that many of the greatest Western thinkers advocated some form of panpsychism, as the present work will clearly demonstrate. For this reason alone it is deserving of serious consideration.

Hence, both an investigation of panpsychism's historical background and a comparative study of panpsychism are important for present-day philosophical discussion. Among the central reasons for this importance are the following:

Panpsychism occupies a unique position in philosophy. As mentioned, it is at once an ontology and a meta-theory of mind. It intimately links being and mind in a way no other system does.

Panpsychism is philosophically valuable because it offers resolutions to mind-body problems that dualism and materialism find intractable. Present philosophy of mind is dominated by materialist theories that cannot adequately address issues of consciousness, qualia, or the role of mind in the universe. Dualism is the traditional alternative, but it too suffers from long-standing weaknesses and unanswered questions. Panpsychism offers a third way.

Panpsychism has important ethical consequences. It argues that the human mind is not an anomaly in the universe, but that the human and the non-human share an important quality: that of being enminded. By virtue of this shared quality, we may come to know the universe more intimately and find ourselves at home in it. This in turn can serve as a source for more compassionate and ecological values, and therefore new ways of acting in the world.

Panpsychism brings into sharp relief the nature of mechanistic philosophy. Present thinking and present social structures are largely rooted in a mechanistic view of the universe that was inherited from Hobbes, Descartes, and Newton: the view of the universe as a place of dead, insensate matter driven by mechanical forces. Human mind is an unexplainable mystery, a "great exception" in the cosmic scheme. Throughout history, panpsychism has, at almost every point, served as an antipode to this mechanistic theory of mind and reality. Usually in opposition, occasionally in agreement, panpsychism marks important developments in the modern worldview.

Panpsychism is perhaps the most underanalyzed philosophical position in Western philosophy, and it is long overdue for a detailed treatment. The last systematic study was performed more than 100 years ago, just as materialist philosophy was coming to the fore. Some recent works have addressed the topic, but always to a limited degree and from a particular philosophical perspective (such as process philosophy). An objective and thorough treatment has been lacking, which is a grievous oversight in view of the major role panpsychism has played in Western philosophy. Just as a point of reference: Since 1500 CE, nearly three dozen major philosophers have

advocated variations of panpsychism. These, as well as many others, are addressed in the present work.

The remainder of this chapter will explore some general issues surrounding philosophy of mind and how they relate to the relevant ontological and psychological concepts. Subsequent chapters will address the specific writings of various thinkers in detail, establishing that they held panpsychist views and indicating something of their rationale. The final chapter will summarize the arguments for panpsychism, compare these with opposing arguments, and attempt to place the panpsychist movement in a larger perspective.

1.2 Basic Concepts in Ontology and Mind

The world appears to be made of many things. Yet we know from observation that nature often displays the ability to create “variations on a theme.” Thus, it is reasonable to inquire whether the apparent diversity of things around us reflects an underlying theme, or themes, that are fewer, simpler, more universal, and more fundamental. Once this approach is accepted, the obvious questions are the following: How many such themes are suggested to exist? What is the nature of the underlying themes? How do they relate to each other and to the apparent diversity of the ordinary world? Such an inquiry is often regarded as a primary aim of metaphysics (more specifically, ontology).

Since the time of the ancient Greeks, “How many?” has been a fundamental ontological question. Philosophers, for the most part, have sought theories in which the plurality of things is reducible to variations on one or a few fundamental themes, principles, or entities (the Greek word was *arche*). Often an early Greek *arche* was a “substance” (or substances) of some kind, so a frequently asked question was “How many substances constitute the whole of reality?” The answers to this question typically fall into two general groups: those proposing one fundamental substance (monism) and those proposing two or more substances (pluralism).

Monist theories date from the earliest days of philosophy, when Thales held the view that everything (presumably including mind and soul) was a form of water. The Eleatic philosophers Anaximenes and Anaximander were monists, as were Parmenides and Heraclitus. After the time of the early Greeks, monist ontology became quite rare (with perhaps the exception of certain versions of Neo-Platonism). For several centuries after the rise of Christianity, the soul was regarded as real and as distinct from the body, and dualist and pluralist philosophies dominated. Not until the Renaissance,

when Girolamo Cardano, Giordano Bruno, and Benedictus Spinoza articulated their systems, did the monist view again become prominent. In the 1700s, the theories of dynamism and energeticism began to establish a scientific basis for monism, paving the way for the “mass/energy monism” that came to dominate the Western worldview, particularly in the past 100 years.

Pluralist cosmologies began with Anaxagoras’ view of the world as made up of myriad substances, “infinite in number.” Empedocles, another early pluralist, conceived of all things as composed of four elements (fire, air, water, and earth) working in conjunction with two overarching forces: *Philotes* (Love) and *Neikos* (Strife or Hate). In the Middle Ages, Paracelsus argued that all things were composed of mercury, sulfur, and salt. Later, Leibniz and James advocated pluralistic views of the universe.

More commonly, though, philosophers opposed to monism conceived of simpler pluralist schemes, with only two fundamental substances or entities. Such metaphysical or ontological dualism began with Plato, for whom the true reality was the realm of the Forms and the secondary reality was the ordinary “realm of phenomena” (the realm of things as they appear to us). The Christian worldview divided reality between earthly and heavenly realms, the former the domain of the body and the latter of the soul or mind. This division was reinforced by Descartes’ distinction between the *res extensa* (matter) and the *res cogitans* (mind). It was further supported by theories, advocated by Newton and others, that the universe was a law-driven, mechanistic system; according to these theories, mind or soul was undeniable and yet clearly not material and thus was a separate (second) aspect of reality. The theory of evolution and the secularism of the twentieth century tended to undermine this duality, driving many contemporary thinkers to a materialist monism according to which mind is a reducible or derivative entity. Yet the absence of a convincing theory of monism, combined in many cases with religious beliefs and/or intuitive feelings, has kept the concept of ontological dualism alive.

The contrast between monism and dualism, important to a proper understanding of the phenomenon of panpsychism, will be addressed in further detail in the following two sections.



Another basic question is that of the historical nature of mind: Over the course of universal evolution, how and when did mind come to be? It seems clear that either mind in the most general sense has always been present in

the universe or else it came into being (suddenly or gradually). The first view is panpsychism; the second is emergentism.²

Nearly all present-day philosophers of mind are emergentists, who assume that mind emerged at some point in evolution. Usually, however, they do not address the question of how such emergence is conceivable, and they do not acknowledge that *one need not assume this*.

Yet the question of emergentism is central to any adequate theory of mind. Every theory should explicitly acknowledge its standpoint on this question. If it is an emergentist theory, it should detail how and under what conditions mind has emerged; if it is not emergentist, it should explicitly accept the panpsychist extension. Some theories of mind—for example, Searle's requirement that mind be limited to biological organisms—incorporate emergence in the larger theory (at least implicitly), but such approaches have yet to win much acceptance. Most commonly one finds a mushy middle ground in which philosophers fail to clearly articulate their views one way or the other. They seem to know that a clear and comprehensible theory of emergence is extremely problematic, but they cannot bring themselves to adopt the only viable alternative.

The above does not imply that panpsychism is somehow fundamentally anti-emergentist. Panpsychism can, and in fact nearly always does, admit the existence of a vast range of mental complexities or "degrees of animation," each new level of complexity explicitly emerging under some condition. Mind is often correlated to structural or evolved complexity; as new physical forms of being emerge, so do new forms of mind. Clearly, for example, *Homo sapiens* came into being over some period in history; 10 million years ago there were none of these creatures, and 10,000 years ago there were many. Thus, the peculiarly human form of mind undoubtedly emerged. Yet mind as a general phenomenon may have always existed.

Compare mind and another fundamental entity: gravity. Gravity is "everywhere," and it has always existed (at least, under most interpretations). Yet new gravitational fields emerge every time there is a new configuration of matter. The gravitational field of the Earth is a function of the planet's total mass and its distribution. Clearly a cubic Earth would produce a different gravitational field than a spherical one. Furthermore, technically speaking, even the present actual field of the Earth is continuously changing as the molten core circulates, continental plates shift, and human activity moves matter around. Thus, one could reasonably claim that the Earth's field, even now, is continuously emerging, continuously becoming in a sense new, while staying within certain rough bounds.

There are different forms of emergence, just as there are different forms of panpsychism; the two concepts are not mutually exclusive.

1.3 Background on Monism

Monist theories posit that all of reality is in essence either a single entity or a single kind of entity. With standard concepts of mind and matter, there are at least three versions of monism: theories in which only matter (i.e. mass/energy) ultimately exists, theories in which only mind ultimately exists, and theories in which some third type of substance—neither mind nor matter—exists. A quick elaboration of these views is in order.

First let us consider materialist (more properly, metaphysical) monism. Within the sub-discipline of philosophy of mind this is often called *physicalism*; in the context of panpsychism the two terms are typically treated as synonymous. Materialism is the standard, default view of the scientific community. In its mechanistic form it sees the universe as composed of lifeless, inert matter that organizes itself into the complex objects of our world and somehow gives rise to mind and consciousness. Mind, to the extent that it is taken as real, is viewed as a function of underlying matter and energy.

There are many variations of materialist or physicalist theories in the current philosophical literature. Three such general classes are worth mentioning in the context of the present discussion: the identity theory, functionalism, and eliminativism.

Adherents of the identity theory claim that mental states are real but that these states are identical with brain states. Someone's mind, experiencing a red sensory impression, is in the "red mental state" because his brain, physically, is in the "red physical brain state." There is thus a one-to-one correspondence between the physical states of a brain and the mental states experienced; they are one and the same, only appearing to us as different. Mental states are not anything in themselves and do not have a unique ontological standing. Spinoza may be said to have originated this approach, but it was not fully articulated until the middle of the twentieth century. J. J. C. Smart (1959) is perhaps the best-known identity theorist; other advocates include Herbert Feigl (1958), David Lewis (1966), and D. M. Armstrong (1968). At issue for the identity theory is the underlying nature of the identity. If it is claimed that mind is identical with brain (state), then this implies that mind coexists with certain physical processes, namely those occurring in the neural network that makes up the human brain. Typically

unaddressed are the issues of “animal mind,” “plant mind,” or mind in general. A proper identity theory should describe what exact physical processes are “identical with mind” and why. Spinoza viewed all things as being identical with mind, and he was thus both an identity theorist and a panpsychist. Feigl likewise drifted close to panpsychism. Bernhard Rensch (1971) identified his position as “panpsychist identism.” More commonly, identity theorists seem to not address the larger issue.

A second class of materialist monism, in a similar vein as the identity theory, is functionalism, which argues that mental states are real and that they are identical with a particular “process state,” or state of information. The process state is determined entirely by the causal role played by the system. Anything that instantiates the appropriate information state (e.g. a computer) will, *eo ipso*, adopt the corresponding mental state. In other words, the mental property can be thought of as a second-order effect, the functional role of the physical system being primary. Thus, functionalism can be seen as a kind of generalization of the identity theory: not just a brain, not just a nervous system, but any physical system is capable of giving rise to a mental state. Recent advances in computer science and artificial intelligence have bolstered the case for functionalism, especially with such high-profile examples as the defeat of the chess champion Garry Kasparov by the computer program Deep Blue. Certain identity theorists, including D. M. Armstrong and Hilary Putnam, are sometimes viewed as functionalists, and William Lycan and Daniel Dennett (in his early writings) have put forth functionalist theories. And again, functionalism can be seen to shade into panpsychism; even if it is allowed that only certain complex functional states can instantiate, say, human consciousness, this is not to say that less complex systems cannot instantiate lower orders of mind.

Eliminativism—the view that mind is somehow imaginary or unreal—is a truly radical materialism and a logical extension of behaviorism. Eliminativist philosophers point to advances in science that seem to explain everything about the world in physical terms, avoiding any need for reference to consciousness, sentience, or experience. They see this as a further step in filtering out unnecessary and confusing ideas about reality, a process that began with the elimination of the pantheon of Greek and Roman gods, continued through the elimination of the Christian God in the time of Laplace and Nietzsche, and continues still. W. V. O. Quine and Paul and Patricia Churchland are typically, though not uncontroversially, associated with this view.

As one may suspect, there are certain philosophical weaknesses associated with the principle of materialist monism. Consider two of these. First, it can

be argued that the present system of physical monism, or physicalism, is not very monistic. Even though physicists view matter as “one type of thing,” they have been unable to create a unified theory of matter. On the standard view, mass/energy consists of mass particles (leptons and quarks), which come in a total of 12 variations, and of four distinct force particles (photons, gravitons, gluons, and intermediate vector bosons). As of yet there is no unified theory. Furthermore, subatomic particles behave in very peculiar and non-mechanistic ways, which differ radically from the behavior of objects in the everyday world. Such a system, some would say, can hardly be called monist. A second weakness, already mentioned, is the problem of accounting for the presence of the human mind. All theories other than eliminativism must explain why humans alone (or “all mammals,” or humans and “higher animals,” etc.) possess mind and how mind came to emerge over the course of evolution. Presumably, materialists hold that there is something ontologically unique about the brain of *Homo sapiens*, or the brains of other sufficiently evolved organisms, that permits the presence of mind and consciousness. What precisely this is has not yet been answered to anyone’s satisfaction.

A second kind of monism comprises those theories in which mind is the ultimate reality. This is the position known as *metaphysical idealism* (or, more simply, *idealism*). Matter, to the extent that it is viewed as real, is seen as a feature or an aspect of mind. Following this definition, we can observe that Parmenides was perhaps the first idealist; he identified Being as the ultimate reality, and he equated it with mind.³ Anaxagoras also held a position close to idealism. Even though there were an infinity of substances, they were all brought into being and articulated by the power of mind: “. . . whatever things were to be, and whatever things were, as many as are now, and whatever things shall be, all these mind arranged in order” (Smith 1934: 34). Plato’s system, in which the Forms or Ideas are the ultimate reality, can also be seen as a variant of idealism.

Of the more modern forms of idealism, we generally distinguish four: metaphysical or ontological idealism, transcendental idealism, absolute idealism, and personal or pluralistic idealism. Metaphysical idealism is a claim about the true nature of things. Bishop Berkeley, a renowned metaphysical idealist, held the view that *esse est percipi* (to be is to be perceived). For Berkeley, only minds and ideas exist; physical objects are really just collections of sensory impressions. Transcendental idealism was formulated by Immanuel Kant as he sought to transcend empiricism. Kant’s is more of a rationalist and epistemological claim: that all knowledge of reality is

mental or phenomenal. Furthermore, Kant believed that the mind plays an active role in shaping the objects of knowledge, thus injecting something of the character of our mind into everything we perceive. Absolute idealism argues for the existence of a universal or absolute mind, something like a world-soul, that “realizes itself” in all things, including ourselves. Such a worldview was developed by Fichte, Schelling, Bradley, and Royce, among others. Finally, the so-called personal idealism of Howison and McTaggart rejected the idea of a single overarching Mind but retained the notion that all things were realizations of mind. In their view, each thing is the self-realization of its *own, individual* mind.

There is perhaps less distinction between these forms than may appear. Absolute and personal idealism are as much ontological theories as Berkeley’s view. Berkeley’s God perceives all, just as the Absolute Mind does—though the absolute is realized in all things in a way that God, perhaps, is not. And the individual minds of personal idealism would seem to be linked by some common, unifying spiritual realm, which may take on characteristics of an “absolute.” Of the four, only personal idealism implies a form of panpsychism. Conversely, it should be clear that there are many variations of panpsychism that do not presume any of the above systems of idealism.

To elaborate briefly on the last point: Panpsychism is sometimes described as a version of idealism, but such is not necessarily the case. Idealism posits mind as the essential reality of all things; panpsychism argues, roughly, that all things “have minds.” The former is from an external perspective, the latter from an internal one. One can be an idealist without being a panpsychist (consider Berkeley, Kant, and Hegel). As a matter of fact, most panpsychists in history were *not* idealists in the sense of “mind as the ultimate reality.” Certainly there were idealist philosophers who were also panpsychists (Schopenhauer, Royce, Bradley, Sprigge), but their idealism was supplemental to, not entailed by, their panpsychism. Thus, the identification of panpsychism with idealism is inappropriate and unjustified.

Neutral monism posits a neutral third entity, neither mind nor matter, as the ultimate reality. Mind and matter are then two aspects of, or two reducible features of, this more fundamental substance. The formal concept of neutral monism is generally regarded as having originated in the late 1800s with Ernst Mach, who held that “sensations” were the basis of all reality—a view that is also a form of panpsychism.

Neutral monism goes back in spirit to the Greeks. Parmenides (by way of a non-idealist interpretation) and his notion of being can be described as

such. Anaximander, whose *arche* was “the infinite,” was a neutral monist. In the Renaissance, Spinoza articulated a philosophy in which God was identified with all of Nature. For Spinoza, mind and matter were only two of the infinitely many attributes of God. Hume is usually considered a neutral monist. In modern times, Whitehead and Russell were famous neutral monists; William James held a related view,⁴ seeing “pure experience” as fundamental (another panpsychist variant). More recently, the physicist-philosopher David Bohm has argued that the “implicate order” is the underlying basis for mind and matter.

To the degree that neutral monism conceives of a common ground to both mind and matter, it strongly tends toward panpsychism; of the individuals just mentioned, all but Hume are arguably panpsychists. To avoid panpsychism, the neutral ground of reality would have to distinguish between animated forms of matter and inanimate ones. This would require a complex metaphysical system, something difficult to achieve in purely naturalistic terms.

1.4 Dualism and Interaction

As has been noted, modern pluralist theories have been almost exclusively dualist, offering up two fundamental entities—usually, mind and matter—which are taken as two independently existing aspects of reality and which, as such, may stand in varying degrees of relation to each other. The type of relation and the level of interaction determine the nature of the various dualist theories.

A basic distinction between “natural” and “supernatural” dualism is commonly made. Supernatural dualism includes the traditional religious view that there exists an otherworldly realm of God, angels, and spirits, a realm not affected by such natural physical processes as evolution and entropy. It originated in the religious (primarily Christian) worldview that dominated much of Western civilization from roughly 500 to 1700 CE. The corresponding dualist theories of mind and soul are typically theological theories and tend to focus on the immortality and redemption of the soul. For the most part, the present work will bypass such theological approaches.

Of late, though, there has been something of a resurgence in so-called naturalistic dualism, which holds that mind is an integral and evolved aspect of reality yet is beyond the empirical physical realm we see around us. Naturalistic dualism sees mind as a real but non-physical entity that interacts with the physical body. This non-physical mind is not a supernatural entity and belongs to no conventional religious hierarchy. It is a

natural, rational, law-based aspect of reality, yet it cannot be found within the domain of the physical universe.

There is ongoing debate over the meaning of 'naturalism'. Some see naturalism as continuous with the process of science, as effectively advocating a materialist view. Others see it as ontologically neutral with respect to materialism. It can be difficult to make the argument that something not a part of physical nature should be called "natural" at all. Some philosophers who struggle with the limitations of materialist monism yet want to avoid supernatural dualism are finding a way out of this dilemma in naturalistic dualism.



Any philosopher who holds that mind and matter are in some sense real and distinct must account for the relationship between the two. This is the problem of mind-matter interaction. Taking the word 'body' in the general sense (as a physical body or material object, not just the human body), there are logically four possible modes of interaction:

- (1) Mind affects body, and body affects mind.
- (2) Body affects mind, but mind does not affect body.
- (3) Mind affects body, but body does not affect mind.
- (4) There is no interaction.

These will be discussed in order below.

First: Descartes elaborated the view that mind and matter, though completely independent substances, must somehow interact. It was clear to him that mind could affect matter, and likewise matter could affect mind; this, of course, is the common intuitive feeling. For Descartes, the point of interaction was the pineal gland of the brain, a small organ that was presumed uniquely capable of acting as the point of bi-directional interaction. Though the pineal-gland theory has been proved decidedly false, the general contention that mind and body are somehow capable of interacting has persisted—if only in the naive intuitive argument that "mind clearly exists," "(human) body clearly exists," and "I know that my mind affects my body and vice versa." Unfortunately, in the 400 years since Descartes no one has produced a satisfactory explanation as to exactly how this would work. Basic physical laws, such as the conservation of mass/energy and the requirements of thermodynamics, seem to prohibit any possible interaction outside of the physical universe. Interactionist dualism is, therefore, currently held more as a matter of faith than of philosophical reasoning.

Second: A number of philosophers have concluded that mind somehow “results from” or “arises from” the physical action of the brain and body, but that, not being a physical entity, it has no causal power in the material world. This is *epiphenomenalism*. Mind, on this view, is somewhat like a shadow cast upon a wall—the shadow takes the form and character of the object casting it.⁵ Philosophers can be led to this conclusion when they attempt to reconcile the views that (a) the physical world is causally closed (as most all physicists believe) and (b) mind is something real. Mind thus becomes a secondary and subordinate phenomenon, caused by the brain but having no causal power back on it. Epiphenomenalism is a common theory of mind at present, though few seem satisfied with it.

Third: Logically there exists the converse of epiphenomenalism—the idealist position that mind is the fundamental substance of reality, and that what appears to us as body or as matter is a secondary or illusory phenomenon without real causal effect on the underlying mind. Plato’s ontology can perhaps be placed in this category. His allegory of the cave argued that what we take as physical reality is only the shadow of the true Forms that constitute essential Reality. Phenomenal reality—the realm of the senses—exists through a particular kind of interaction with the Forms that Plato called “participation”; he wrote that everyday reality participates in the various Forms and “is modeled on them.” How this occurs is not entirely clear. Further, the Forms, though eternal, are not static and fixed but have the capability for change and motion (*Sophist*, 248–249). The process of participation would imply a change of some kind in the Form, but whether this constitutes causality in the ideal realm is not clear. Apart from (perhaps) Plato, few have argued for such a “converse epiphenomenalist” view.

Fourth: There is the dualist view that both mind and matter exist but never interact. This counter-intuitive position (sometimes called parallelism) is attributable primarily to Gottfried Leibniz, although was also held by Nicolas Malebranche. Leibniz formulated the concept of “pre-established harmony”: In the beginning of the universe, God created the “monads” (atom-like particles that were the basis of reality), which possessed both mental and physical characteristics. The physical and the mental were then set off on parallel but non-interacting paths for all eternity. Like two perfectly synchronized clocks, each monad’s mental side keeps perfect alignment with its physical side. This, Leibniz believed, accounted for the apparent connection between the body and the soul.

Spinoza also held a view that some call parallelism. On this view, each real thing, as a mode of God/Nature, has both physical and mental attributes. These two attributes are perfectly aligned for any given object, and as

the physical mode undergoes change so too does the mental mode. “The order and connection of ideas [mental modes] is the same as the order and connection of things [physical modes].” (*Ethics*, II, proposition 7) However, Spinoza also says that “ideas” and “things” are “one and the same,” as they are really only *one thing* in God/Nature. To this extent, the two paths of idea/mind and body/matter are merely appearances, not real. Thus, there is no real parallelism, only (as with Leibniz) an apparent one.

All four forms of interaction are problematic. Epiphenomenalism is the most widely held today, only because all other options are utterly untenable. Historical philosophers seem to have had less of a concern with this issue, but they nonetheless failed to develop any widely accepted theory of such interaction. If nothing else, such a situation would seem to suggest the need to reconceive the nature of mind-matter causality.

1.5 Panpsychism Defined

Philosophical arguments often turn on interpretations of definitions. This is particularly so with issues of mind and consciousness. In addition to the obvious lack of agreement on the basic definition of ‘panpsychism’, there is the added complication that the words used in the definitions—‘sentience,’ ‘consciousness,’ ‘soul,’ etc.—are ambiguous. To add to the confusion, the definitions of these sub-terms often use other, equally ill-defined terms. A review of the literature finds a mass of self-referential definitions, which ultimately rely on some ground-level understanding of our common-sense notions of these terms. This is to some extent unavoidable, but it does not preclude attempting a somewhat more rigorous use of terminology.

To minimize this concern, it is necessary to explain some of the various terms associated with panpsychism. First, however, it is necessary to attempt to define ‘panpsychism’ itself. The philosophical literature cites a number of definitions. The formal definition, if one can speak of such a thing, presumably is that in the authoritative *Routledge Encyclopedia of Philosophy*:

Physical nature is composed of individuals, each of which is to some degree sentient. . . . [They may be said to have] sentience, experience, or, in a broad sense, consciousness. (Sprigge 1998a: 195)

However, one rarely finds the same definition twice. Here are some other definitions:

All objects in the universe . . . have an “inner” or “psychological” being. (Edwards 1967: 22)

Everything has a soul, or . . . a rudiment of a soul. (Popper and Eccles 1977: 15)

Mind is a fundamental feature of the world which exists throughout the universe. (Seager 2001)

There are some inconsistent and potentially contradictory definitions. Chalmers (1996) defines it in one place as “everything is conscious” (216) and elsewhere as “everything has a mind” (298), apparently regarding the two as equivalent. Such wide variability often serves to obfuscate rather than clarify. Clearly any definition turns on (ambiguous) sub-definitions, employing terms such as ‘sentience’, ‘consciousness’, and ‘experience’. In spite of these confusions, we may perhaps agree that the general meaning is understood, and may be captured—at the highest level—as “all things have a mind, or a mind-like quality.”

Ideally we should be able to step forward in the formulation of a more articulated definition, approaching something that we may begin to call a consensus view. Panpsychism as a concept, it may be proposed, has three essential characteristics: (1) Objects have experiences *for themselves*; that is, the mind-like quality is something internal to or inherent in the object. (2) There is a sense in which this experience is *singular*; to the extent that a structure of matter and energy that we call an object is one thing, this oneness is reflected in a kind of unitary mental experience. (3) An object is a particular configuration of mass/energy, and therefore any configuration or system of mass/energy should qualify in the same sense.⁶ Thus, a functional definition of panpsychism might be “All objects, or systems of objects, possess a singular inner experience of the world around them.” Such a definition is useful while avoiding some of the more contentious (and ambiguous) words that one finds in other definitions.

There are many words that relate to noetic qualities and abilities, and a brief survey of the literature will unearth an array of such terms: ‘mind’ (or ‘mentality’, or ‘mental states’), ‘consciousness’, ‘self-consciousness’, ‘thought’ (or ‘thinking’, or ‘cognition’), ‘intelligence’, ‘feelings’, ‘experience’, ‘inner life’, ‘what-it-is-like-to-be-something’, ‘qualitative feel’ (or ‘qualia’), ‘will’, ‘phenomenal feel’, ‘awareness’, ‘perception’, ‘sense’, ‘sentience’, ‘subjectivity’. All these terms obviously evolved in a human context, and the meanings of all are rooted in our collective human experiences. This makes any textual definition problematic. With respect to a definition of panpsychism, certain terms seem particularly troublesome, especially ‘consciousness’, ‘soul’, and ‘thought’.

‘Consciousness’ is highly anthropocentric, and its meaning is too closely associated with specifically human mental states to serve as a general attrib-

ute of reality. 'Consciousness' means, to most people, the aware and alert mental states that human beings normally experience in their waking hours. This meaning is firmly entrenched, even for philosophers, and to fight it is an unnecessary uphill battle. This is not, of course, to suggest that consciousness is an invalid topic of philosophical discussion. One may still accept that consciousness is a real and meaningful concept, and that it poses substantial philosophical problems related to the nature of knowledge, introspection, and phenomenal experience. One may ascribe it, not unreasonably, to animals, even (perhaps) the "lower" ones. It would be more contentious to refer to plants as conscious, even more to systems of organisms (e.g. a forest or the Earth). Very few would allow the term for inanimate objects, and any attempt to do so likely poses insurmountable conceptual barriers.

Panpsychists are highly sensitive to the use of 'consciousness', and for good reason. Upon laying out a panpsychist position, one is immediately faced with the charge that he believes that "rocks are conscious"—a statement taken as so obviously ludicrous that panpsychism can be dismissed out of hand. Even when philosophers apply it to plants or inanimate objects, they do so primarily as extrapolations from our own internal feelings. We may see strong analogies with the human mind in certain animals, and so we apply the concept to them with varying degrees of confidence. We may see no such analogies to plants or inanimate objects, and so to attribute consciousness to them seems ridiculous. This is our human bias. To overcome this anthropocentric perspective, the panpsychist asks us to see the "mentality" of other objects not in terms of *human* consciousness but as a subset of a certain *universal quality* of physical things, in which both inanimate mentality and human consciousness are taken as particular manifestations. But this can be achieved without needlessly anthropocentric terminology.

Soul, in addition to being anthropocentric, is a supernaturally and theologically loaded concept that rarely occurs in contemporary philosophical literature. We find the term 'soul' in certain translations of the ancient Greeks, but this particular reading of 'psyche' is less relevant than the more general 'mind'. ('Spirit' is somewhat preferable to 'soul', although it still has an air of supernaturalism). Soul is perhaps best left to theologians, or to philosophers speaking poetically.

References to the concept of thought (or thinking), or to its close relative cognition, typically involve purposeful planning, considering of alternatives, and holding of beliefs; most would attribute these qualities only to animals, in various degrees. 'Cognition' refers to an especially deep and

insightful thinking, a reasoning power through the use of inference or deduction—primarily the rational thought process of humans. There is perhaps a very loose sense in which “to think” could mean *to process information*, wherein we might attribute this quality to all objects, but this adds little to the discussion. Thus, along with ‘consciousness’ and ‘soul’, it is best to avoid such terms when speaking of properties of mind in general.

The central point here is that discussions of the meaning of panpsychism should avoid the most heavily anthropocentric terms, which cloud the discussion more often than they provide clarity. And the use of such loaded terms is in any event unnecessary, as is demonstrated in the working definition above. Certain terms seem to be most general and least biased; these might include ‘mind’, ‘mentality’, ‘experience’, and even ‘qualia’.⁷ Even ‘psyche’, left untranslated, may be suitable as a universal noetic quality. Hence, these concepts are perhaps more appropriately used in connection with panpsychist descriptions of reality.

A number of philosophers have recognized the definitional problem and made efforts to alleviate the situation. The best attempts to date at overcoming the general human bias are typically those that put a qualifier in front of the reference to mind: “proto-mentality,” “low-grade awareness,” “occasions of experience,” and so on. But even these ultimately refer back to our own sense of mentality or awareness and so are inherently limited in their ability to express a broader conception of mind.

It may be useful to propose a sort of panpsychist hierarchy of terminology, ranging from the most human-like to the most universal. This is by no means the commonly accepted order, and certainly every philosopher would construct a different arrangement,⁸ but it may serve as a framework for furthering the general discussion of panpsychism.

humans: self-consciousness, cognition

all animals: thought, consciousness

animals and plants: sense, awareness, sentience, emotion

all animate and inanimate: experience, mind, mental state, what-it-is-like, qualia, nous, psyche.

Of course, there is considerable overlap at the boundaries of these four categories. The higher primates probably have all attributes of humans, including some level of self-consciousness and certain aspects of cognition. The more complex plants’ ability to “solve” problems of their environment (insufficient light, lack of water, difficulty in attracting pollinators, etc.) might reasonably be called a kind of thinking or intelligence. Inanimate objects are “sensitive” to physical changes in their surround-

ings. Details of the various panpsychist theories may also serve to support some such framework, and may help eliminate unnecessary and avoidable obfuscations.



Definitions of panpsychism are one source of confusion; synonyms are another. The philosophical literature contains a number of terms that are related to panpsychism. These terms, in no particular order, are ‘animism’, ‘hylozoism’, ‘panbiotism’, ‘pansensism’, ‘pantheism’, ‘panentheism’, and ‘panexperientialism’.

Animism (the term derives from the Latin ‘anima’, soul) is the belief that everything in the universe has a soul or a spirit, and in this sense it is superficially related to panpsychism. Typically connected to pre-Christian or tribal religions, animism has a strong air of superstition and mystery. It is most commonly used in a primitive, pre-scientific sense in which objects have “spirits”—e.g., the “spirit of the tree” inhabiting an oak or the “water-spirit” inhabiting a lake. These spirits typically have a human-like nature or personality that exhibit all the properties of a rational person, perhaps including intelligence, belief, memory, and agency. Furthermore, such spirits usually are not bound to the physical realm; they are immaterial and supernatural beings. This dualistic and highly anthropocentric nature characterizes animism and distinguishes it from philosophical panpsychism, which generally does not attribute high-level capabilities to non-human entities. Animism thus is taken as having little if any philosophical standing.

Hylozoism (from the Greek *hyle*, matter, and *zoe*, life) is the doctrine that all matter is intrinsically alive. (It is sometimes used, incorrectly, as a synonym of vitalism.) Under hylozoism, every object is claimed to have some degree or sense of life. Introduced as a philosophical term in the seventeenth century, ‘hylozoism’ has more recently been used in reference to the early Greek philosophers. Having this pedigree of philosophy, it is more highly regarded and discussed, though always in a historical sense. This term is not restricted to ancient Greece, however. Even into the late 1800s, the philosophers Ernst Haeckel and Friedrich Paulsen openly described themselves as hylozoists. Paulsen called hylozoism “a conception which almost irresistibly forces itself upon modern biology” (1892/1895: 100). This view continued into the early twentieth century as certain prominent scientist/philosophers—including Agar and Haldane—argued for a hylozoist worldview.⁹ Things had begun to change by the

middle of the twentieth century. In 1944, Tallmadge asserted that “to call a contemporary scientist hylozoist would be simply to utter an anachronism” (187). Yet in 1982 the physicist Bohm posited that “in a way, nature is alive . . . all the way to the depths” (39).

Of all the synonyms for ‘panpsychism’, ‘hylozoism’ is perhaps the one most commonly and closely associated with it. But ‘panpsychism’ is now the more viable term, largely because we have a better understanding of what constitutes life. Except for such borderline cases as viruses, we generally understand what it means to be alive, and it is clear that tables, rocks, stars, and atoms are not living things. (It is debatable, however, whether *systems* of living things, e.g. an ecosystem or the Earth, can be considered alive. This gets to the issue of whether, for example, the Earth qualifies as an organism in some sense.) As with the various concepts of mentality, the notion of life can become an unnecessary point of disagreement and confusion. It is perhaps best to take it in the ordinary scientific sense and apply it only to living organisms as commonly understood.

Panbiotism is essentially identical to hylozoism. It was apparently introduced by the philosopher Paul Carus, editor of the journal *The Monist*. Carus (1892) defined panbiotism as the view that “everything is fraught with life; it contains life; it has the ability to live.” He used it in the ancient Greek sense, defining life as exhibiting “spontaneity or self-motion.” Why Carus did not use ‘hylozoism’ is not clear. Regardless, that term is now rarely used, as is also true of the variation ‘panzoism’.

‘Pansensism’, meaning *everything senses*, is typically associated with the panpsychist views of Telesio, Campanella, and Mach. It is synonymous with the rarely used ‘hylopathism’. Pansensism is a concept, like panpsychism itself, that deserves to be discussed more widely. The word ‘sense’ generally takes on an anthropocentric meaning: a product of one of the five sense organs, or our human mental faculty. However, it can take on a wider definition: an awareness, a recognition, or a reaction to an external stimulus. All things react to external stimuli, of course, but the implication here is that there is a mental phenomenon of sorts associated with the object, and that something akin to a mental state or a subjective feeling is affected by external stimuli—and therefore that all things can be said to be sentient.

‘Pantheism’ means literally that all (*pan*) is God (*theos*)—that God is identical with everything that exists, i.e. the universe. What this means is not entirely clear, and precise definition is not easy. At a minimum it means that the Cosmos has a divine quality, that all material objects (including humans) are part of that divinity, and that the divine is a unity. It also typ-

ically implies that God is a non-personal being, that there is no Creator or Providence, and that there is no transcendent realm of the Divine.

The Greek Stoics were the first panpsychists. Diogenes Laertius recorded the observation “Zeno says that the entire cosmos and the heaven are the substance of god, and so does Chrysippus.” (*Lives of the Philosophers*, 7.147) Spinoza is the philosopher most typically associated with pantheism, as he equated God with Nature. But, like the Stoics, he was also a panpsychist, as he claimed that “all things are animate in various degrees.” Generally speaking, though, there is no logical connection between the two terms.

Panentheism is related to pantheism and is often confused with it. The etymological meaning is *pan-en-theos* (all in God, or more simply God is in all things). The term ‘panentheism’ seems to have originated in the writings of Karl Christian Friedrich Krause, ca. 1828. The common analogy is to a sponge: Just as water can saturate a sponge without being the sponge, so too God is said to saturate all things while being transcendent and unchanging. An alternative explanation is that God is the soul of the cosmos, a world-soul, and the physical universe is his body.

Panentheism can be confused with panpsychism. On the traditional view, God is omnipresent. If God represents spirit or mind, then all things can be said to contain mind—the mind of God. The central issue here is whether we speak of such mind as “mind of single universal being” (God, the Absolute, the World Soul, and so on) or of mind as attributable to each thing in itself (of each object’s possessing its own unique, individual mind). The former view would be a monist concept of mind, the latter a pluralist concept. The monist view is relatively close to a traditional theistic viewpoint, though perhaps not acknowledged as such, and thus has less bearing on the philosophical issues discussed here. The pluralist view is comparable to panpsychism. The only remaining issue is whether such universal, pluralist mind is a deity; if it is, panpsychism can be seen as a variation of panentheism.

Finally, we have panexperientialism, the doctrine that “everything experiences.” The term was coined by the process philosopher David Ray Griffin (1977: 98) to define a particular version of panpsychism deriving from Alfred North Whitehead and from Charles Hartshorne. Whitehead took events (in his terminology, ‘occasions’) to be the fundamental metaphysical reality, and this was linked to the concept of experience (undoubtedly influenced by James’ theory of “pure experience” as the basis of all reality). Panexperientialism is at present the most fully articulated form of panpsychism. Hartshorne, Griffin, De Quincey, and other process philosophers

may be credited with keeping alive the debate over panpsychism in general, and they have marshaled a large amount of evidence, both to support their position and to criticize the dominant materialist and dualist ontologies. For an early account, see Hartshorne 1937; for more recent articulations, see Hartshorne 1977, Griffin 1998, De Quincey 2002, and Clarke 2003.



With this background in place, we can now begin to examine in detail the evolution of panpsychist thought from the time of the pre-Socratics through the present.