

## Five Dangers of Materialism

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**ABSTRACT.** Amidst the boon of medical, scientific, and technological progress, materialism has gained increasing explanatory power in deciphering the enigma of mind. But with the proliferation and acceptance of cognitive science, psychic reality has been largely reduced to a physical ontology. In this article, the author explores the ground, scope, and limits to the materialist framework and shows that although biological–neurochemical physiology is a necessary condition for mental functioning, it is far from a sufficient condition to adequately explain the human being. This situation becomes especially significant when one examines the issues of selfhood, freedom, personal autonomy, and the phenomenal quality of the lived experience.

Key words: consciousness, materialism, mind–body problem, philosophy of mind, psychic holism

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CONTEMPORARY THEORIES in cognitive science and the philosophy of mind lend burgeoning support to the materialist position regarding the mind–body problem. That is, naturalism, physicalism, and material monism are the preferred theories that explain the relationship between mental processes and physical brain states. Although dualist and spiritualist approaches offer counterarguments to materialism (Vendler, 1994; Warner, 1994), the preponderance of current research in the philosophical, natural, and social sciences concludes that mental states are nothing but physical states (Armstrong, 1968; Bickle, 1998; Churchland, 1981; Dennett, 1991; Dretske, 1995; Searle, 1994). From these accounts, mind *is* brain.

Throughout this article, I highlight five central dangers associated with materialism that ultimately result in (a) the displacement of an ontology of consciousness, (b) a simplistic and fallacious view of causality, (c) the loss of free will, (d) renunciation of the self, and (e) questionable judgments concerning social valua-

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tion practices. I attempt to demonstrate that the physicalist position eliminates the possibility of free agency and fails to adequately account for psychic holism.

### The Spectrum of Materialism

Beginning with Democritus and Epicurus, who conceived of nature as a collection of changeless atoms, or indivisible material particles in empty space, and continuing through the scientific naturalism of Thomas Hobbes, materialism has become the most popular contemporary perspective on the nature and character of mind–brain dependence (Bechtel, 1988). There are sundry forms of materialism, yet not even materialists can agree on a strict definition of the term. Most materialists insist that nothing exists but matter in motion. Any reference to consciousness, psyche, soul, spirit, or anything denoting mental life is simply referring to active matter. Another extreme is epiphenomenalism, which is the belief that mind does exist but is caused by and emerges out of material changes that remain completely dependent on matter. Consciousness is a by-product of material-efficient causal forces and is itself causally impotent: Mind has no causal efficacy of its own. All materialists would agree that immaterial agencies or entities do not exist: Spirits, ghosts, angels, and demons are illusory. This belief often leads to the conclusion that there is neither a God (or gods) nor a supernatural realm, and even if these so-called nonmaterial entities were purported to exist, they would be characterized in naturalized terms.

These accounts of materialism may be said to conform to three theses: (a) *The identification thesis*: Mind is identified as nothing more than physical states and processes of the brain and central nervous system. (b) *The explanation thesis*: All human and animal behavior is best and most fully explained by physicalistic interpretations—that is, through neurochemistry and neurophysiology. (c) *The exclusion thesis*: There are no powers or properties of the mind that no physical object or system can possess. All mental activity, thought, and action are physically governed and exclude non-materialistic accounts of mental phenomena (Graham, 1993, pp. 128–129).

In my opinion, the most sophisticated form of materialism is non-reductive materialism. Here the claim is that the phenomenology of consciousness—referred to as *qualia* or the lived experience—cannot be adequately explained from physicalistic accounts. Hence, assertions about the ontological status of consciousness are bracketed. But it is often the case that non-reductive materialist attempts to bracket or neutralize the ontological status of mind ultimately evade the metaphysical question that is precisely at issue—“Is the mind merely brain?” Even the term *non-reductive materialism* is itself an oxymoron: Substance is reducible matter. While non-reductive materialists claim that mental phenomena (i.e., the appearance of consciousness) cannot be adequately explained by appealing to physical brain states alone, the tacit ontological belief is that mind at bottom is the unification of biological–neurochemical–physical brain processes.

Recent definitions of materialism that have come into vogue within contemporary philosophy of mind include the view that what is material is anything that perceives or exists in space and time. Flew (1984), among others, pointed out that the precise meaning and status of the materialist doctrine are far from clear. What are the properties, attributes, or qualities that matter can, cannot, or must possess? Furthermore, what are its essential properties? Is there a distinction between its existence, being, and essence, its occurrence and phenomenology, its appearance and reality? What is the exact nature of *how* matter extends in space and time, the forces that operate on it, and how consciousness—itsself conceived as matter—perceives and understands its dependence on it? What are the exact mechanisms by which thought occurs, and how do we know? How is it that we cannot directly intuit, feel, observe, or recognize those mechanisms or processes when they are occurring in our own minds? The range of attempted and possible answers to these questions makes materialism an ambiguous group of precepts rather than a unified doctrine.

One thing is clear about materialism: It is a reaction against and rejection of Cartesian dualism that posits a non-extended “thinking substance” associated with an immaterial mind (Descartes, 1641/1984). It is worth noting, however, that there are many forms of dualism, including the Platonic distinction between appearance and reality; Kant’s separation of phenomena from noumena; the ontological distinctions between being and essence; the dialectically opposed forces and manifestations of consciousness; and the epistemological chasms between the knowing subject and object. It is not my intention to defend ontological dualism, but to show that materialist conceptions of mind pose many problems for those trying to understand the complex psychological, psychosocial, and ontological configurations that constitute the human condition.

Rather than explicate the multitude of materialist positions ranging from identity theories (Armstrong, 1968; Lewis, 1966; Place, 1956), functionalism (Levin, 1986; Putnam, 1967; Smart, 1962; Sober, 1985), supervenience (Teller, 1983), eliminativism (Churchland, 1981; Stich, 1994), and representationalism (Dretske, 1988, 1995; Fodor, 1987, 1998), to anomalous monism (Davidson, 1980), I refer collectively to the materialist position, which includes the following characteristics as operationally defined:

1. *Physical reductionism*, which holds that (a) all mental states are simply physical states in the brain; there is nothing “over and above” biological–neurochemical–physiological structures, processes, and evolutionary pressures; (b) all mental events, properties, and processes arise out of physical preconditions whereby (c) the organism is conceived of as a matter–energy system composed solely of active material properties or substances reified through material-efficient causal attributions.

2. *Naturalism*, as I define it, (a) is the belief that all knowledge comes from physical conditions governed by natural causal laws based on an empirical episte-

mology; (b) supports realism,<sup>1</sup> which is often (but not always) incompatible with a priori truths or transcendental idealist positions; (c) is a form of positivism, in that truth claims about reality are quantifiable facts that can be directly observed, measured, or verified within systematic science relying on experience, experimentation, and rational methods of inquiry; (d) is anti-supernaturalistic, anti-theological, and anti-metaphysical (despite its metaphysical consequences); (e) is pro-scientific—that is, all natural phenomena are adequately explained, or in principle can be explained, through scientific methodology; and (f) displays tendencies toward non-teleological, non-anthropomorphic, and non-animistic explanations.

If materialism is going to make such ontological assertions, then it must be able to coherently defend its own self-imposed assumptions without begging the question. If we are going to properly understand the question of mind, we must ferret out the philosophical, humanistic, and ethical implications of the materialist project and expose the conundrums it generates. I attempt to show that psychic holism becomes an alternative paradigm to the materialist position and more successfully addresses the multifaceted domains of mental processes, personal experience, and discourse surrounding mind–body dependence without succumbing to a reductive metaphysics.

### **The Naturalistic Fallacy**

Freud (1900) admonished us to “avoid the temptation to determine psychical locality in any anatomical fashion” (p. 536), insisting that the mind should not be reduced to “anatomical, chemical or physiological” properties (1916–1917, p. 21). Materialists, on the other hand, are dogmatic in their insistence that all mental events can ultimately be reduced to physical events or brain states in the organism. Thus, physical reductionism is the *sine qua non* of materialism. Teller (1983) summarized this position nicely: “Everything . . . is at bottom physical.” In other words, there is no mind, only brain. One might ask materialists, “How do you know that?” To justify their claims, they inevitably rely on science, empirical psychology, the bare appeal to sensible and tangible experience, and/or naturalized or evolutionary accounts of epistemology (see Quine, 1969a; Vollmer, 1975; Wuketits, 1990). Science has its legitimate status; however, it must first establish a coherent criterion for truth. To fall back on the very criterion that it must set out to prove simply begs the question and envelops materialist justifications in circularity.

Many criticisms have been launched at naturalized epistemology for (a) its attempt to naturalize mental notions of intentionality in materialistic and physically reductive terms; (b) its presupposition of a realist notion of truth; (c) its positivistic structure; and (d) its tendency to collapse into cultural relativism. Putnam (1983) charged that naturalized epistemology presupposes a metaphysical realism and a correspondence theory of truth in that truth corresponds to the “facts.” He ultimately argued that this notion is incoherent, whereby “truth” is relevant to

one's scheme of describing and explaining physical phenomena, hence embedded in a social language practice that determines how truth is to be defined and measured. This metaphysical assumption postulates a set of "ultimate" objects that are "absolute" and can be "objectively" measured, hence are "real," essentially aiming to revive the whole failed enterprise of the realism–anti-realism debate. Because realism and correspondence theory presuppose knowledge of an object world independent of the subject, such postulation becomes a meaningless proposition when one cannot talk about objectivity without importing subjectivity. It was Kant, and later the German Idealists Fichte and Hegel, who cogently demonstrated that the a priori structures of subjectivity make objectivity possible.

Poststructural and linguistic accounts characteristic of postmodernism maintain that truth claims are constructed by historical contingencies and socially defined language practices: Our identification of Truth conforms to current rationally accepted standards of truth. From this account, any talk of absolute knowledge that exists objectively—as if it inheres as a property in an object independent of the subject—is vacuous. All interpretation rests on a theory of language, therefore objectivity is always interpreted through subjectivity. Yet language is instantiated in a social ontology and determines the definition of objectivity. However, what is agreed upon within a social context of linguistic practices and custom is determined by a collection of subjects. Traditionally, arguments against realism come from a priori epistemology and semantics, or theories of meaning. This strategy typically applies a theory of meaning or a philosophy of language to critique and abnegate any metaphysical claims to truth that naturalism holds, thus raising serious questions about any realms of existence independent of mind. From this perspective, realism is an issue of interpretation, hence hermeneutics, instantiated in linguistic, semantic, and social practices. Even *facts* are language-formulable facts, and can be semantically captured in language-formulated truth (Dancy & Sosa, 1992, p. 188). This claim is that epistemically, naturalized accounts cannot make such realist assertions of mind.

Some philosophers, such as Wittgenstein and Derrida, seem to renounce (or perhaps elude) the whole debate itself. While Derrida deconstructed the distinction between the inner and the outer, and treats them equiprimordially, from a Wittgensteinian stance, the whole debate becomes a "language game" (see Post, 1991). Because there are many equally privileged ways of communicating, each language has its own rules and vocabulary that determine what we are talking about within a social context. Therefore, no linguistic practice captures the ultimate structure of reality, including the nature of mind. Absolute naturalized claims about the being and essence of mind become a naturalistic fallacy. This is the tendency to believe that a complex whole is identical or reducible to its parts, causes, and natural origins, and that the mind's complexity may be entirely explained by appealing to such naturalistic conditions.

Notions of truth and rational acceptability are relative to social language practices within a particular cultural context. "Reason is always relative to con-

text and institution,” and “the ideal language,” “inductive logic,” and “the empiricist criterion of significance” are “fantasies of the positivist” (Putnum, 1983, p. 358). Furthermore, reason is informed by the cultural norms that determine what naturalistic views will be. Truth—the only notion of truth one can understand—is then defined by the norms of one’s culture and the cultural criteria that are socially imposed. If left unchecked, the politicalization and privileged discourse of scientific naturalism can lead to a form of cultural imperialism—*My culture (truth) is better than yours!*

### **The Destruction of an Ontology of Consciousness**

Materialist conceptions of mind are highly problematic for several reasons. First, the individual is reduced to physical substance alone, which gives rise to an organismic and, in some cases, mechanistic view of the human being. By reducing the psyche to matter, materialism displaces an ontology of consciousness. That is, there is no distinct ontological status to mental events; psychic processes and properties are merely physical properties within a functional system that constitutes the organism. The transcendental properties of the mental are reduced to atomic and sub-atomic particles within a closed system of energetics constituted through quantum mechanics. In this sense, mind does not direct consciousness or action, *matter* does. In short, the human being is reduced to a thing—a reified biological machine engineered by evolution and stimulated by the environment.

This approach can lead to a very dehumanizing account of the individual. The intrinsic uniqueness of individuality, personality, and the phenomenology of psychological experience collapses in reductionism. By making the human being merely an organism, one has stripped the uniquely personal and idiosyncratic dimensions of selfhood down to biology. Although this ideology has its rudiments in natural science and evolutionary biology, from this standpoint consciousness does not exist; that is, consciousness, intentionality, the phenomenal experience, qualia, the “aboutness” or “what it’s like” to experience something and to live are reduced to changes in brain states engulfed in a language describing physical processes alone. Within this context, all conscious experience and behavior constitute a functional (and at times mechanical) operation that is organized within a systemic structure. The meaning of being human and the existential questions and dilemmas that populate mental life are abandoned to sterile scientific depictions of animate organic matter. Although materialist theories vary in conceptual depth and locution, in the end there is no metaphysical mind, only physical–energetic substance.

### **Simplicity and Causal Fallacies**

Materialism ultimately rests on a simplistic view of causality—a view that is inherently biased and conforms to the empirical positivist tradition—namely, psychic reality is that which is directly observable, measurable, and quantifiable,

thus constituted as fact. We owe this view to the law of parsimony, or Ockham's razor. The virtue of simplicity is intended to be in the service of economy; that is, anything intelligible can be explained in material terms. Abstract theories of complexity and ambiguity are less economical and do not neatly "fit" into ordinary belief systems; therefore, simplicity is preferred to complexity. However, the simplest explanation is not necessarily the most accurate. This position has been applied in the following way: "If one cannot observe it or measure it, it does not exist." In my view, the value of simplicity has been abused here. There is no value in reducing the human being to a thing. While the value of parsimony is appropriate for various types of social, professional, and pragmatic discourse, this view sacrifices the qualitative aspect of what it is like to be human. Cognitive science today is content with explaining consciousness as experiential changes in brain states that can in part be observed, measured, and quantifiably verified. Observation is one thing, but the generalized claim "That is all there is!" is epistemically problematic. This positivistic account presupposes a "God's eye" view of reality and thus makes a sweeping metaphysical judgment.

Materialism fallaciously posits that if psychic events are realized physically, then their tenets are proved. At the very least, materialists are obliged to take an agnostic position with regard to an ontology of consciousness. Just because one cannot directly observe or measure conscious phenomena does not mean that neurophysiology is all there is. As previously mentioned, this is a naturalistic or reductive fallacy. The very idea of the mental is that it is something that is not tangible, it is literally *no-thing*, hence psychical. This is not to deny the interdependence and interpenetration of mind and body: While physical processes and properties are necessary conditions of mind, they are far from being sufficient conditions to produce mind. Mind is embodied or instantiated physically, but by virtue of its transcendental and elusive functions and properties, it cannot be spatially localized or dissected. Most materialists want to eliminate this stance as a viable possibility and hold allegiance to a simple economy—that which is *real* is something that is tangible. This fixation with making metaphysical and epistemic pronouncements based on tangible evidence in the service of economy jeopardizes the integrity of psychical reality.

Another pitfall of the materialist position is the simplistic notion of causality as physical reduction. Thus, materialism relies on the interaction of two primary causal attributions: (a) physical causation and (b) environmental determinism. This position insists that the human being is, in Aristotelian terminology, the conglomeration of material and efficient causes: Mind is caused by the matter or physical substance it is made of and is causally affected by the material forces that constitute the flux of environmental events. This is the case for the most unrefined materialist positions ranging from the type–type identity theory to the more sophisticated functional monist approaches. It boils down to (a) the physical causing all mental events, thus instituting force and motion that bring about effects; and (b) environmental contingencies that cause the organism to respond

to a stimulus prior to the effect in time. This is the theoretical foundation of most materialist theories as well as American behaviorism, which espouses the stimulus–response paradigm of psychological processes.<sup>2</sup> In other words, some stimulus (whether internal or external) precedes a response (changes in brain states, neurochemical networks and patterns of activity, or behavioral output due to environmental variables), thereby causing physiological, cognitive, and behavioral changes in the organism.

For example, distinguished early pioneers such as Armstrong (1968) and Lewis (1966) assigned causal attributions to mental states, which therefore direct behavior. Mental events, however, are physically realized and caused by sensory input, thus environmentally determined as well. Functionalism, on the other hand, championed by Putnam (1983) and today’s contemporaries, more successfully argues for an elaborate organization of mental life (e.g., a functional physical system directs the body and consciousness via central nervous system sensory inputs and motor outputs, thereby producing changes in neurochemical patterns of brain activity and biophysiological structures that parallel a cybernetic machine of input–output operations). Despite these sophisticated and cogent strategies, the dynamic processes and properties of mind arise from physical substance, hence are reductionistic and physically determined. This position also holds true for certain dualist perspectives such as epiphenomenalism and the “qualia freaks.” Ultimately, all mental properties arise out of matter, therefore, they belong to *it* and have no causal powers over physical states. Jackson (1982) rejected physicalism due to epiphenomenal qualia; nevertheless, consciousness is rendered causally impotent. Thus, we are biologically pre-wired and directed by environmental conditioning based on various propositional expectancies. If one espouses this view, the human being is the product of biology and the environment, nothing more.

With the exception of teleological functionalism, which employs a formal and final causal thesis, materialist theories are essentially reductive. Even with the teleological functionalism advanced by Sober (1985), the author ultimately supports a biological teleology in that the functional organism is purposeful in its organization and behavior. In the end, this position is also a physical reductionism, for the purposeful behavior has its source in biology whose aim is functionally motivated. While an organism can have telic organization, such organization does not require the organism to be self-directed or have an active agent doing the directing. For example, a heart has a telos; its function is to pump blood. This notion is reminiscent of Freudian drive theory in that a drive (*Trieb*) has a functional telos but does not think; it is merely oriented toward tension reduction in the service of pleasure, or in this case, functional adaptation to biological and environmental demands.

In espousing reductive causality, materialism ignores the multicausal processes and over-determined forces of mind that, I argue, can never be exactly pinpointed as empirical science wants to profess. David Hume showed in his seminal work, *An Enquiry Concerning Human Understanding* (1748/1961), that



temporal sequence does not necessarily establish causal connection. In other words, the mere occurrence of event Z after event Y does not provide sufficient grounds for claiming that event Y caused event Z. Causality can never be ascertained with unequivocal precision or isolated as a distinct or independent physical event without accounting for the multiple over-determining forces that constitute causal complexity. For example, if I strike a match to light a fire, one could say that the physical–chemical properties of the match caused the fire (material cause), or that my action of striking the match caused the fire (efficient cause), or that the natural elements of the physical surroundings (such as the arid temperature, wind velocity, dryness of the wood) caused the fire (formal cause), or that my volitional intention and purposeful behavior caused the fire (final cause), or that all these conditions must be present in interactional causal harmony. Aristotle’s meta-causal theory allows us to break down the constituents of causal conditions and events, but it would be a category mistake to simply reduce teleology to physical necessity alone.

In the service of parsimony or simplicity, the materialist insistence on physical ontology selectively ignores the multitudinous and over-determined processes afforded by a meta-causal theory of explanation. This insistence becomes particularly germane to the questions of determination, purpose, intentionality, and choice. Maintaining a physical ontology of consciousness has even further pernicious repercussions for those examining the question of freedom.

### Loss of Freedom

Reliance on material and efficient causal explanations, the over-valuation of simplicity à la Ockham’s razor, and consequently, physical reductionism, completely eliminate any possibility of free will. From this standpoint, the human being is not free. This position is summarized by the exclusion thesis, which posits that human beings have no properties or mental powers that no object or physical system can possess (Graham, 1993). Thus, if free will is a mental process or property, and no physical system is free, then we do not possess free choice and are consequently not free. This simplicity denies the possibility of final causal determinants and transcendental teleology characteristic of free agents. *Agent* is defined here as a subject who is telic, purposeful, and self-directed via choices and deliberation in judgments constituting self-conscious activity. Therefore, thoughts, volitional intentions, and behaviors are the activities of the will: Freedom is ultimately defined as the ability to choose or *be* otherwise. Freedom, however, is not merely restricted to choice; it also encompasses the structural organization of the individual doing the choosing, namely the agent. In short, agency, free will, intentionality, and final causality (e.g., choosing the grounds for the sake of which to behave) are problematic for the materialist, for physical matter is caused rather than freely causal.

Several philosophers have tried to give an adequate account of free will for

the materialist position (Davidson, 1980; Dennett, 1984; Levin, 1979; Thalberg, 1983). Levin (1979) argued that materialism is compatible with free will, since he defined freedom as “doing what you want to do” (p. 228). However, materialists have a proclivity to define freedom in terms of action rather than agency. Levin continued: “One can be free even if one’s acts are caused by wants, and one’s wants are caused by other factors out of one’s control” (p. 228). It is one thing to have control over one’s actions that are “unconstrained” by external forces, yet it is another thing to say that one’s thoughts or volitional intentions are caused by something outside of one’s control. Within this naturalistic framework, free choice is based upon external contingencies and physical states in the organism. Thoughts and actions cannot be freely chosen if they are caused by preceding events that are environmentally or physically determined. For the materialist, desire and choice *are not* freely acquired: They are imposed upon the organism by intrinsic and extrinsic forces. Freedom involves the intentional states of the individual, not just actions, in that choice is defined as “I could have done or *thought* otherwise!” This is not the case if choice is directed by a functional system in which matter causes mental events. Materialists have a difficult time explaining why we have the ability to freely choose our next thought. Therefore, the locus of freedom resides in the agent’s ability to freely will and determine his or her own thoughts and actions.

Davidson (1980) attempted to account for a non-reductive materialism by claiming that the mental is anomalous, for there are no precise or discernible laws that account for mental events. In other words, there are no laws connecting propositional attitudes with brain states.<sup>3</sup> However, the materialist’s response to Davidson is that each propositional attitude might in fact be a complex brain state or network of processes, which even he seemed willing to concede. Putnam (1975) also proposed the notion of “multiple realizability” of mental states as an anti-reductionist response to psychoneural identity theory. This position was also taken up by Fodor (1974), who argued that social sciences are generally irreducible to physical theory. Recently, Horgan (1994) proposed a non-reductive materialism in which he denied that mentalistic psychology can be reduced to neurobiology. Horgan maintained that reductionism would be disproved if intentional mental state-types could be physically realized in multifarious ways. By adopting a realization-neutrality posture, one may preserve the ontology of intentional states of consciousness within a framework that gives psychological processes and properties explanatory power and autonomy.

Post (1987, 1995) and Dennett (1991) offered sophisticated, non-reductive, material accounts of mental phenomena that take into account the natural-selective history of ancestral organisms within their specific cultural environments. From these perspectives, the phenomenology of mind is better construed as adaptations that are not rigidly reduced to biological–neurochemical–physiological brain processes, but rather further consist of natural-selective pressures operating on ancestral organisms over long periods of time. The usual reductive accounts, espe-

cially those insistent on individualistic and synchronic reductions, do not adequately address these evolutionary and cultural adaptations. Hence, these types of materialists would have reservations about characterizing the mind as an energy-matter system simply because some key mental properties are not sufficiently understood (let alone explained) by physicalist paradigms.

Non-reductive materialists acknowledge difficulty in accounting for certain aspects of mental reality and leave open the possibility for psychical interpretations of mental events that exist and manifest apart from or are at least co-extensive with physical brain processes. Essentially, this form of materialism holds an agnostic stance toward some possible form of dualism or compatibilism. But when we follow this line of thinking through to its end, there really is no materialist position that is truly non-reductive, for any position that ultimately posits mental life in physical-evolutionary terms is reductionistic. Evolutionary adaptations are realized physical mutations of brain processes and organismic structures. Thus, there is no such thing as non-reductive materialism: It is merely a myth (Kim, 1994). The burden of proof lies on the shoulders of those materialists who wish to account for freedom within an entirely materialist framework.

Charles Hanly's (1979) solution to the question of materialism is to offer a compatibilist framework of psychic determinism. While deterministic forces populate mental life, the difference between a free and a compelled act arises due to the nature of its causes, for all acts are caused. Therefore, the concepts of will, intentionality, autonomy, and responsibility may be seen as compatible operations within the mind in which the notion of freedom is preserved within a determinist model. Here the point is that whereas psychic life is bound to the necessity of its natural configurations, the psyche may still operate as a freely determining self-directed agent.

Dretske (1988) and Dennett (1981) attempted to explain meaning, intentionality, "aboutness," and the "what it's like" aspect of qualia by placing primacy on the internal states of the organism that cause experience and behavior due to the internal organization of the functional states, rather than by assigning causal attributions to the environment. From this perspective, the structure of the organism *appears* to have free will; it interacts with the surround and structures meaning within its functional framework, assigns experience a job, indicates a role for it, thus allegedly producing meaning and choosing the grounds for the sake of which to behave. By making a functional organism assign meaning to experience, Dretske and Dennett preserve the self as a self-directed agent, so it seems. Despite this, freedom is still defined in material terms: The transcendental qualities of mind are still reduced to matter even though, in Dennett's words, we have a little "elbow room." While a functional organism can freely act, it cannot transcend, or in Hegelian terms, sublate (*aufheben*) its physical thrownness. Thus, within this context, freedom is still reduced to a physical ontology. For Hegel, freedom is, among other things, freedom from natural determination. We are free but we are natural beings; thus freedom is the process of transcending nature while incorpo-

rating it in its spiritual embodiment. Having attained freedom from its mere natural, necessarily determined corporeality, *Geist* is actively free to determine itself as a dynamic, intelligible, self-articulated, complex whole.

A sophisticated materialist view claims to allow for conscious experience, but disavows the notion that an ontology of consciousness may be purported to exist above or even equiprimordially along with neurophysiological properties of the brain. For Dretske and Dennett, we are an elaborately designed and malleable machine of which we are also the designers, yet the blueprints must conform to natural laws. When this argument is followed through to its end, the mind is ultimately explained by appeal to material and efficient causal-evolutionary forces that have their teleology in substance. Thus, in the end, we are not autonomous free agents because substance teleology is confined to the formal characteristics of a pre-determined design. Although self-assigned meaning as a mental property has causal powers, meaning is ultimately a pattern of neurons firing in the brain or a realized state in the biological machine. Mental activity is merely the product of a physical apparatus. Consciousness, meaning, and intentionality are merely neurological structures and processes, and the "I" is the system itself. The human being is still a thing—a complex thing, but nevertheless, a physical system. The true test for materialism is to explain, if it can, how matter can have freely self-directed constituting agency. Agency from the physicalist standpoint is not free, for it is only the product and succession of material and efficient properties of the brain.

### **A Word From Physics**

What is particularly interesting is that those social scientists and philosophers of mind discussed previously seem to be unaware of the recent discoveries in the natural sciences (see Anderson & Stein, 1987; Atmanspacher, 1997; Atmanspacher, Amann, & Müller-Herold, 1999; Penrose, 1989; Primas, 1993). Many thoughtful scholars in experimental and theoretical physics as well as biophysics, biochemistry, genetics, and mathematics oppose reductionism on ontological, methodological, and epistemological levels (Yates, 1987). Because the procedures, observations, terms, and patterns of explanation in some sciences cannot be connected to those of other disciplines (Ayala, 1987), reductive strategies that aim to collapse one branch of science into another are neither possible nor desirable. For example, physicists Philip Anderson and Daniel Stein (1987) compared dissipative structures with thermodynamic equilibrium systems and concluded that complex physical systems exhibit emergent properties unrelated to those of their constituents. While higher order novelties and complexities arise out of simpler events, such complexities are hardly reducible to their previous states.

Following the work of Hans Primas (1993, 1994), Otto RöSSLer (1994) also provided support for a "parallelism" between phenomenology and science. In his assessment, endophysics offers a two-level interpretation of objective reality

(*endo* and *exo*) that preserves the dualism inherent in both Cartesian and Kantian philosophy. While the *endo* questions pertinent to quantum mechanics may be solved, the *exo* level remains, with qualifications, directly inaccessible. This is why physicists speak of probabilities rather than locality (see Gustafson, 1999; Sudarshan, 1999) and of correlations rather than causation (Atmanspacher, Amann, & Müller-Herold, 1999).

Harald Atmanspacher and Frederick Kronz (1999) further contended that the multilevel structure of generalized quantum theories is too simplistic if epistemic and ontic elements are considered on the same level of description. Following Quine (1969b), they concluded that ontological descriptions are relative to the conceptual scheme one espouses. Because *both* mind and matter are emergent domains of description that are fundamentally symmetrical, the authors further speculated that the distinction between mental and physical polarities becomes irrelevant.

It is unfortunate that such ardent materialists are not acquainted with the advancements made by the natural sciences and their subsequent implications, such as the momentous discovery of the energetic stratification of material interactions; if they were so acquainted, the whole reductionist enterprise would be recognized for what it is: an ideological artifact that is scientifically indefensible. These arguments radically change the whole issue. Until the relation between quanta, mind, and matter is examined from a holistic paradigm (see Shimony, 1999), the illusion of materialism will likely persist.

### Death of the Self

One of the most disturbing consequences of the materialist position is that the notion of the self dissolves. In the spirit of Nietzsche, "The Self is Dead!" and materialism killed it. Essentially, this view of the self is commensurate with a Buddhist or Humean view—there is no self, only sensations and impressions impinging on the senses in a fleeting moment. For Hume, there is no "I" directing mentation. There is only the theater of the mind where thoughts are cast by natural laws and where self-reflection is only second-order perception. The self is merely an illusion. Thus, free will and any sense of personal identity are non-existent. In Dennett's (1991) words, we "*spin* a self," or as Skinner would contend, we are only operantly conditioned to believe in a self. The "I" is just a social construction or invention of language: We are a collection of dynamic mental properties and perceptions in flux, that's all.

Whether one conceives of the self in the tradition of Descartes's *cogito* as the "I" that resides behind the cognizer; the Kantian transcendental unity of apperception as the nominal, enduring, unified unifier; Hegel's notion of subjective spirit (*Geist*); Sartre's notion of the self as radical freedom; or the Freudian ego (*Ich*) as a self-directed synthesizing agent, the distinctive *psychical* processes and properties of consciousness—not to mention the unconscious—are dismissed from the materialist framework. While a physical system can be dynamically or-

ganized and functionally sophisticated, in the end, the organism—not the self—is doing the thinking and behaving. Materialists would contend, however, that the organism *is* the self. But it is precisely this definitional issue that becomes problematic. The notion of the self plays a great role in human value practices and should not be conceived merely as a physical entity. We cannot simply reduce human experience, personal identity, character formation, and selfhood to atoms and sub-atomic particles without losing the integrity of freedom and an ontologically transcendental self.

Furthermore, materialism offers very little comfort for those looking for the possibility of a personal afterlife. Not only are free will and the self eliminated, but materialism is consequentially a fundamental atheism. Spiritual transcendence of the soul or personality, and the possibility of an afterlife are not tenable within the materialist framework. If the mind or psyche is nothing more than its material substrate (merely active particles), then the substance ceases to exist upon its physical death. The soul as psychical substance could not exist in disembodied form, hence death of the organism is death of the soul. As Graham (1993) told us, if “the soul is something mental and the soul survives bodily death, whereas the brain fails to survive, then there is no such thing as a soul” (p. 129). Unless there were some miraculous means by which to reconstitute brain-matter, the soul would not exist. It would be virtually impossible to rebuild and reconnect the millions of neural pathways destroyed by physical decay, such as in the case of brain trauma or dementia. And if this were possible, such as in some *Star Trek* episode, the question of sustained personal identity would remain equivocal. By definition, reconstituted matter would no longer be identical to itself. A duplicated self would not be the same self. For materialists, all natural phenomena eventually pass out of existence and return to an eternal, primordial, material ground in an eternal transformation of matter, so wave “good bye” to a personal afterlife. Simply put, spiritualism, supernaturalism, immaterialism, disembodiment, transcendentalism, and any appeal to mystical experience, revelation, or faith are untenable hypotheses.

There is something so counterintuitive to this claim, that human consciousness, or the self, personal identity, or soul (either theologically or non-theologically conceived) is not a transcendental agent with psychic properties and attributes. Materialism assumes that what is real is only what appears and that it can be objectively verified as tangible fact. But the whole notion of the spiritual is, by definition, that which cannot be empirically measured or quantified. It is by virtue of the fact that we have no direct epistemic access to the transcendental properties of the mind that we *must* posit its ontological status. In fact for Hegel (1830/1991), there is nothing of which we are more certain than the spiritual, by virtue of the fact that we posit it.

Even if we were to concede that the mind ceases to exist at the moment of physical death, this would not rule out the presence of self, teleology, agency, free will, choice, and the spiritual dimensions of the human condition. The phenomenology of the lived experience—extending to all facets of human motivation, desire,

emotion, and rational thought—cannot be adequately captured by the rigidly reductive language and ontological pronouncements that characterize some branches of natural science. Philosophical, historical, cultural, aesthetic, and psychological hermeneutics, to name just a few, allow for a plurality of interpretations to resonate among privileged discourse on the nature of selfhood. Materialism simply does not address the human aspect as a dynamic self-articulated totality or complex whole.

It appears that materialists must anchor ontology to something physical or tangible to verify their quest for certainty. Nagel (1974) nicely made the point that materialists have a penchant for describing mental phenomena in physical terms as operating in the service of objectivity. Yet espousing this viewpoint in the name of objectivity takes us further away from the real nature of consciousness (the subjective lived experience) rather than bringing us closer to it. One does not need to be reminded that the object of “objectivity” is always interpreted through the “mind’s eye,” that of the subject. Kant (1781/1965) also reminded us of the limits of the possibility of epistemic certainty: We can never know the *noumena* directly, only through the translation of our senses mediated by rational understanding. Thus, materialism deceives itself by espousing a “God’s eye” view of the universe in its attempt to logically account for all phenomena. Within this framework of natural science, such presumption about reality becomes manifested in the belief that if one can account for every particle, one can (at least in principle) accurately control and predict the world. Science *appears* as the touchstone for Truth, when in fact, science is just one appearance among many appearances. For Kant (1781/1965), any physicalist attempt to make ontological claims about the “thing-in-itself” (*Ding an sich*) is fallacious: By definition this is unknowable, simply unverifiable, an unprovable tenet, hence an open indeterminate question—the very claim in contemporary physics (see Primas, 1993, 1994; Rössler, 1994).

### **Value Judgments Concerning Social Practices**

Because materialism is overidentified with a scientific epistemology, there is a tacit prejudice that the human being is a biological machine that one can control, predict, and manipulate. Science and medicine have provided and continue to provide humanity with knowledge and technology that drastically improve the quality of life, but there is an inherent danger in the tendency to view the human being as nothing more than a biological organism. Within this context, there is a medicalization or objectification of the human subject. The hazard in this treatment of the subject as an object is that it may lead to social, political, and scientific practices that fail to account for the dynamic psychological complexity of mental life and the existential human needs inherent in conscious experience. This biased naturalistic view may condone various professional practices in medicine, psychiatry, and the social sciences. We have already seen how the medical model of psychiatry has usurped psychological approaches to the treatment of certain types of mental illnesses. For example, Prozac is preferred over psy-

chotherapy as the salient mode of intervention for depression—assuming that all forms of depression have a biological correlate that is confused with etiology, hence all forms are physically caused. This is simply erroneous.<sup>4</sup> The danger of such medical practices is that people get the message that all they need to do is take a pill and they will be happy. Physical interventions and psychopharmacological treatments may be appropriate for some medical or psychiatric conditions, but certainly not all. Such objectification of the human being may potentially justify myriad ethically dubious practices (e.g., fetal tissue research, euthanasia, physician-assisted suicide, genetic and human cloning). The reduction of the phenomenology of consciousness could further lead to an invalidation of uniquely subjective, lived, existential experience. The human being is not just an organism to be manipulated by science; rather a person is to be acknowledged and valued. The medicalization of and clinical depiction of the human being seem to lack a degree of empathy, concerned solicitude, and careful insight into the array of human experiences that cannot be reduced or explained away with technical jargon or physicalistic nomenclature.

In his refutation of modern scientific materialism, Alfred North Whitehead (1925) charged physicalist accounts of mind and nature with the Fallacy of Simple Location or Misplaced Concreteness—that is, the error of objectifying a high-order abstraction as a concrete entity. Whitehead pointed out the confusion and misguided conclusions that occur when levels of abstraction are reduced to simply located, quantitative properties of matter. This attitude essentially holds that what constitutes the basic elements of the real is the simply located particle. In quoting a poem from Wordsworth, Whitehead showed that the antiseptic language of science can never capture the *feeling* of nature that is encountered in the lived experience:

We forget how strained and paradoxical is the view of nature which modern science imposes on our thoughts. Wordsworth, to the height of genius, expresses the concrete facts of our apprehension, facts which are distorted in the scientific analysis. Is it not possible that the standardised concepts of science are only valid within narrow limitations, perhaps too narrow for science itself? (1925, p. 84)

If we were to ask a botanist to describe the essence of a flower, we would in all likelihood hear about its physical and chemical composition, such as its reproductive organs, its petals, sepals, pistil, stamens, its anther and filament. But if we were to consult a poet such as Wordsworth: “And ’tis my faith that every flower, / Enjoys the air it breathes” (“Lines Written in Early Spring,” lines 11–12; see Kraus, 1998, p. 25), we would be forced to confront a different perspective of reality. Are we to assume that science holds a privileged depiction of nature, such as the nature of a flower? Which one is more real? As useful as it may be in certain contexts, materialist explanations may offer only a limited glimpse into understanding the essence of mind. The aesthetic, the moral, the feelings that constitute the quality of lived experience are perspectives of being that can never be adequately explained by reductive science.

Another potentially dehumanizing aspect of the materialist agenda is that it



advocates a change in linguistic communication practices that emphasize physical description. For example, Paul Churchland (1981) proposed that we adopt a new language to describe brain states rather than conscious experiences. This was proposed earlier by Smart (1962), who stated "it would make sense to talk of an experience in terms appropriate to physical processes" (p. 173). Why? Why do we need a conceptual and social change in language and communication practices? How would it be pragmatic and useful for people to communicate their complex cognitive, emotive, and psychological experiences in physically descriptive language? How could doing so facilitate arriving at a more accurate picture of inner reality? Instead of saying, "I love you," we would say, "My neurons are firing in sector 14.2 of my left frontal lobe." Is love really like a heatwave (see Levin, 1986)? Churchland (1981) even went so far as to propose that we eliminate current social language practices and replace them with an alternative language that would require monumental social and educational changes, not to mention experimental surgery on human beings. He suggested we could "construct a new system of verbal communication entirely distinct from natural language" (p. 220). Such a proposal would require massive changes in the way the world thinks, communicates, and operates. In addition, he proposed placing a "transducer for implantation at some site in the brain" (p. 221).

To me this is clearly an unethical proposal and probably motivated by the need to generate controversy in the service of personal narcissism, ideology, or both. Experimentation on humans?—as if everyone would be a willing participant. The ramifications of such a practice would completely alter the way people think, talk, and perceive reality; thus personality, identity, and one's sense of self would be radically mutated. In essence, people would no longer be who they previously were: It would be tantamount to turning people into machines.

In his essay "Quining Qualia," Dennett (1988) also wanted to get rid of the word "qualia" and redefine the theory of consciousness within a materialist framework. He claimed that because subjective states have "ineffable" properties, they are accessible only from the first-person viewpoint and therefore cannot be detected via physical strategies. While he allowed for conscious experience, he denied any special attributes of qualia as lived experience; we experience only alterations in brain states. The phenomena of conscious subjectivity that we know as our experience of the world is only the brain undergoing various neurochemical changes that cannot be directly observed or communicated by the subject. While Dennett argued against essentialism, his position appears to be essentially reductive. If we are nothing but brain states, then we have a fixed essence in the form of physical organization despite dynamic complexities in its transformation and evolution. Once again, consciousness has no ontological status apart from its substance.

The materialist platform appears to ignore the very qualities of individuality and the phenomenology of experience, if not to deny the social and psychological motivations behind our language practices. As a society we strive for plu-

ralism, not singularity. Language practices are rich in diversity and multiplicity and cannot be made to conform to rigid and narrow-minded practices characteristic of reductionistic strategies. Part of the very nature of human psychology is to resist such restrictions on human expression: The creative, aesthetic, and generative powers of imagination and human desire would be sacrificed to an antiseptic, oppressive regime characteristic of a totalitarian state. What would we do with a language that requires intensive specialized training? And how would use of this language be implemented and enforced? Not only is such a proposal ridiculously impractical, but it would do nothing but stifle the diversity and idiosyncrasy of human experience. We have the responsibility to apply science in a humanistic fashion, not pass value judgments on authentic ways of being.

Materialism poses further problems surrounding the nature of value inquiry. How could values and ideals (as well as the broader transcendental dimensions of consciousness) be reduced merely to biology, or even in some more extreme cases, physical particles alone that, if properly measured through empirical means, inform us how we ought to think and reason? This consequence is particularly imperative when addressing the question of morality. Can moral responsibility be boiled down to biology? Kim (1994) also questioned whether “ethical expressions are definable, or reducible . . . in terms of ‘descriptive’ or ‘naturalistic’ expressions” (p. 242). How can moral behavior and ethical responsibility be reduced to matter? Behavior genetics is a highly controversial and problematic science for it attempts to explain human psychological functioning from the standpoint of evolutionary biology. Despite our discovery of increased genetic detail, which has greatly enriched our understanding of human biology and evolution, it has done nothing to resolve the questions concerning differences between human values and social practices (Shipman, 1994). Dreyfus and Nelkin (1992) went so far as to attribute “genetic essentialism” to criminality. Imagine this legal defense: “I couldn’t help it, my genes made me do it!” If this were acceptable, social, legal, and political–congregational systems would be confronted with a diffusion of personal responsibility that places the locus of control on factors independent of the self. While I am not concerned that materialism offers any threat to the moral responsibility and actions of human beings, I am concerned that the metaphysical integrity of freedom, selfhood, and the principle of morality itself could become sullied.

### **Toward Psychic Holism**

Throughout this article, I have attempted to delineate five dangers of materialism characteristic of the naturalistic and physically reductive paradigms within the cognitive sciences and the philosophy of mind today. Perhaps the main motive of materialism is simply this: If you say all mental events are just physical events, then you do not have a mystery—the mind–body conundrum is solved. Searle (1994) summarized this position: “The famous mind–body problem . . .

has a simple solution . . . Here it is: mental phenomena are caused by neuro-physiological processes in the brain and are themselves features of the brain” (p. 277). This is reductionism at its finest.

The claim that the mind is nothing but the brain is a dogmatic assertion that attributes ontological primacy to physical states over mental processes and properties. In short, the materialist holds a fallacious and simplistic view of causality, denies free agency of the self, and increasingly portrays the human being as a clinical object. The ethical implications of such approaches in medical and social–political practices may potentially threaten the integrity of individuality and collective identity, which may further lead to an invalidation and/or empathic impasse regarding human difference and understanding.

Furthermore, within this context, the transcendental features of psychic reality—emotive, aesthetic, spiritual, moral, and religious experience—are trivialized. Not only is the quality of the lived experience truncated, but materialism consequently neglects the function and role the concept of self assumes for human value. The value and concept of our sense of self serve a fundamental structural and functional role in identity, ethical responsibility, and self-representation. The transcendental qualities of experience and selfhood are in danger of becoming displaced if we are to view the human condition solely from naturalistic paradigms. While the boon of materialism is scientific, medical, technological, and consequently social advancement, the bane is the demise of the self as a complex integrated whole.

Compatibilist interpretations may offer a promissory reconciliation of the mind–body problem through the unification of material and psychic embodiment. One such champion of compatibilism is Alfred North Whitehead who, in his endeavor to bridge the Cartesian rift between *res extensa* and *res cognitans*, offered a speculative metaphysics that unifies physical and mental realities. For Whitehead (1929), the universe consists of incalculable “societies” of “actual entities” or “actual occasions” that are interconnected “drops of experience, complex and interdependent” (p. 18). In the tradition of German Idealism that conceives of *Geist* as pure activity, Whitehead saw mind as the interpenetration of *events* constituting psychic reality. Although Whitehead characterized the “dipolar” constitution of the mind in terms of its physicality and mentality, which permitted him to avoid the “bifurcation of nature,” the polarities of the psyche are ontologically undifferentiated, thus allowing for the unification of the mind and the body as a cohesive whole. Following Heraclitus’s dictum, “Everything flows” (*panta hrei*), Hegel’s dialectic of Spirit, or Whitehead’s process reality, mind is a process of becoming.

Psychic holism constitutes the belief in the multifarious existence and interdependence of the intrapsychic, mental, somatic, and materialistic processes that comprise the individual’s relation to the world and life. This philosophical position is exemplified by Carl Jung’s (1956/1970) notion of the *unus mundus* as “one unitary world.” Adopted from various schools of Gnosticism, neo-Platonism, and Medieval philosophy,

the idea of the *unus mundus* is founded on the assumption that the multiplicity of the empirical world rests on an underlying unity . . . ; everything divided and different belongs to one and the same world. . . . That even the psychic world, which is so extraordinarily different from the physical world, does not have its roots outside the one cosmos is evident from the undeniable fact that causal connections exist between the psyche and the body which point to their underlying unitary nature. . . . The background of our empirical world thus appears to be in fact a *unus mundus*. (p. 538)

The emphasis on psychical holism allows for the multiplicity of psychological, material, spiritual, aesthetic, mystical, transcendental, and transpersonal conceptions of mind to flourish as equally viable ways of articulating the dynamic structures, experiences, and processes that underlie mental life. Within holistic and compatibilist paradigms, the nature of the self, freedom, choice, personal autonomy, and responsibility are sheltered from the bane of physical reduction. Psychic reality is a *unus mundus*, and like the mandala, signifies the unity and integrated wholeness of the undifferentiated ontology that we know as mind.

#### NOTES

1. The spectrum of doctrines considered realism ranges from naive realism to direct realism, intuitive realism, natural realism, critical realism, blind realism, scientific realism, metaphysical realism, epistemic realism, medieval realism, radical realism, Platonic realism, semantic realism, internal realism, realism with a capital "R" and realism with a small "r," sophisticated realism, commonsense realism, pragmatic realism, perspectival realism, ontological realism, processual realism, and revisionary realism (see Bitsakis, 1993, for a review). Traditionally, the issue of realism is a metaphysical question. If we are to assume the historical position in the tradition of Aristotle, then realism is the belief that objects in the material world exist independent of consciousness and do not require thought to sustain their existence. In other words, they would exist despite whether or not they could be thought of or perceived. Some materialists would qualify their claim by arguing that metaphysical realism is unverifiable, thus a meaningless proposition. Instead they may adopt a critical realist position, assuming that there must be something behind the appearance of natural objects of investigation, or else they adopt phenomenalism: Reality is only that which appears.

2. The chief difference between behaviorism and materialism is that behaviorism does not posit complex intervening mental structures, processes, or strategies that govern or mediate one's responses to stimuli, whereas materialism does. Contemporary materialism offers a more sophisticated physicalist theory that does not explain cognition and behavior in solely mechanistic or environmentally conditioned terms.

3. Davidson is following Quine's thesis of indeterminacy of translation, which claims that ascriptions of propositional attitudes are relative to schemes of translation. See Quine's (1969b) *Ontological Relativity* and Levin (1979) for discussion.

4. A great body of literature, primarily in psychoanalysis and cognitive-behavioral psychology, denotes the psychological etiology of various forms of depression ranging from bereavement to responses to loss, death, complicated grief, separation and divorce, insecure attachments, emotional detachment and abandonment by love objects, inverted aggression, persecutory and self-punitive admonitions, to characterological forms of depression commensurate with a structurally depleted self (Arieti & Bemporad, 1978; Freud, 1917; Kohut, 1977).

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