

NATURALISM, THEISM, AND OBJECTIVE KNOWLEDGE

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John Byl

Abstract

We explain our varied experiences in terms of our worldview. The rational defense of any worldview requires the prior acceptance of the existence of other rational minds, mental causation and free will, an objective language, and objective logical and rational standards. A worldview is self-refuting if its defense necessarily presumes entities that are explicitly denied by the worldview. This essay maintains that, on these grounds, various forms of relativism and naturalism are self-refuting. Theism, on the other hand, provides the epistemic and metaphysical basis to fully account for our diverse knowledge. Liberal arts education is in a crisis due to the fragmentation of knowledge and loss of purpose caused by the combined action of pragmatic deconstruction and scientific reductionism. Only by regaining a full appreciation of the depth and comprehension of the Christian worldview, particularly in comparison with its competitors, can we adequately recapture the cohesive unity in diversity of a genuine liberal arts education.

Competing Worldviews

Our experiences have a manifold richness. They consist of our thoughts, beliefs and desires. They include also our subjective sense impressions of an objective world beyond ourselves, as well as our deliberate, though limited, manipulations of that world. How can we account for these diverse experiences? We make sense of the world in terms of our most basic faith commitments--our worldview--through which we interpret the world we experience and by which we live. Philosophy is our attempt to rationally explain and justify our experiences in terms of our worldview.

Currently, three major worldviews are those of naturalism, relativism, and theism. These come in various forms, some of which are rather extreme. One naturalist worldview common particularly among scientists is that of materialist reductionism. For example, Edward Wilson (1998) believes that all truth can in principle be acquired through the reductionist methods of natural science. Wilson asserts that all our knowledge, as well as our appreciation of beauty and perception of right and wrong, can in principle be reduced to the laws of physics (1998: 266). This entails that all our beliefs, as well as our sense of personal identity, purpose and free will, are mere illusions caused by our genes (or brain neurons). Wilson stresses the objective order at the expense of virtually emptying our subjective experiences of any genuine content.

Another, opposite, extreme is that of scepticism, which stresses the subjective self at

the expense of objective knowledge. Thus, for example, David Hume denied almost all knowledge of the external world beyond the senses. More recently, Richard Rorty contends that there is no objective knowledge at all, only linguistic constructs which have no connection with truth (1991:60). Rorty wants to drop the distinction between knowledge and opinion, as well as the notion of truth as correspondence with reality (1991: 25). Likewise, Barbara Smith defends the view that truth, knowledge, and reason are mere creations of human minds and, as such, differ from mind to mind (Smith 1997: 86). Such relativistic views deny the knowability of an objective reality. Hence, one can say nothing about even the possible existence of such reality.

Relativism and naturalist reductionism have had a significant influence on our current liberal arts education. Indeed, according to John Hittenger, the combined effect of these two forces have resulted in the fragmentation of knowledge and the lack of coherent purpose to the curriculum, causing a crisis in liberal education (1999: 61). It is, therefore, worthwhile to examine these worldviews as to their internal coherence and ability to explain the full scope of reality.

Since one's worldview reflects one's most basic faith commitments, it is virtually impossible to rationally convince an opponent to switch worldviews. This requires a radical conversion. Nevertheless, pointing out weaknesses in an opponent's worldview may at least serve to instil a seed of doubt. This essay proposes that a pertinent test of any worldview is to consider its practical implications and, in particular, whether the premises of a worldview are consistent with its rational defence. Any meaningful philosophical discourse among proponents of competing worldviews requires the prior acceptance of a number of basic concepts. For example, purposeful dialogue presupposes the existence of other rational minds, whose conscious thoughts we hope to influence by communicating meaningful ideas through a common language. These must be taken as given and, in turn, presume the existence of objective logical and rational standards.

How can one demonstrate the inadequacy of any particular worldview? The most basic and direct approach is to examine its premises. Any worldview or philosophical system consists of various presuppositions, accepted on faith, and their logical consequences. One might start, therefore, by analysing these premises as to their plausibility. Take, for example, Hume's scepticism. Hume was an empiricist who believed that all of our knowledge derives from sense impressions. Consequently, he denied the validity of all abstract ideas, including notions of the self, causation, and even the external world. How valid are Hume's initial premises? Oliver Johnson criticises Hume's notion that mind consists entirely of a succession of perceptions, without any trace of intellectuality (1995: 262, 298ff). Once one adopts a more comprehensive view of mind, the sceptical conclusions no longer follow.

Often, however, the initial errors are small and not easily discerned. It is only later, after a long train of thought, that they produce significant consequences. As Aristotle noted in *De Caelo*, "The least initial deviation from the truth is multiplied later a thousand-fold...that which was small at the start turns out a giant at the end." (Aristotle 1952: 362). This suggests a second, more indirect approach. The plausibility of a set of presuppositions might be more easily tested by examining the reasonableness of the conclusions that they entail. For any valid argument, one must either accept the conclusion or reject the premises.

A rational choice is based on whether it is more plausible for the conclusion to be true or the premises to be false.

The determination of plausibility may itself often be rather subjective, coloured by the examiner's own worldview. Sometimes, however, the conclusions are so strongly contrary to common sense that the choice should be clear. In that case, we have a *reductio ad absurdum* of the premises. Consider, for example, George E. Moore's refutation of Hume's scepticism:

It seems to me that, in fact, there really is no stronger and better argument than the following. I *do* know that this pencil exists; but I could not know this, if Hume's principles were true; *therefore*, Hume's principles, one or both of them, are false. I think this argument really is as strong and good a one as any that could be used: and I think it really is conclusive. In other words, I think that the fact that, if Hume's principles were true, I could not know of the existence of this pen, is a *reductio ad absurdum* of those principles. (Moore 1958:119-120, italics in the original)

Moore argues that, since it is more certain that his pencil exists than that Hume's premises are true, Hume's set of premises must therefore be rejected as false.

Moore's argument is similar to that of Aristotle in *Physica*, who met the scepticism of his day with the reply:

That nature exists it would be absurd to try to prove, for it is obvious that there are many things of this kind and to prove what is obvious by what is not is the mark of a man who is unable to distinguish what is self-evident from what is not. (Aristotle 1952: 268)

In brief, it is irrational to accept premises that are less plausible than is the rejection of the conclusions to which they lead. This is particularly the case if the conclusions deny that which is directly evident to our senses. After all, the premises are supposed to *explain* our observations. If any theoretical explanation is inconsistent with our personal empirical experiences, then it is clearly the explanation, rather than our experience, that will have to be revised. The advantage of this refutation is that one need not pinpoint exactly where the initial error occurred.

The broader test of the consequences of worldview presuppositions is how well they can account for the full richness of our experienced world. Is the set of presuppositions *complete*, so that, at least in principle, it can account for everything? The pragmatic test of a worldview is whether it can be consistently lived out. One may well doubt the credibility of any philosophy that cannot be coherently upheld in daily life. Again, consider Hume, who confessed his own inability to consistently maintain his scepticism:

The great subverter of Pyrrhonism or the excessive principles of scepticism is action, and employment, and the occupations of the common life. These principles may flourish and triumph in the schools; where it is, indeed, difficult if not impossible to

refute them. But as soon as they leave the shade, and by the presence of the real objects, which actuate our passions and sentiments, are put in opposition to the more powerful principles of our nature, they vanish like smoke, and leave the most determined sceptic in the same condition as other mortals.... Nature is always too strong for principle. And though a Pyrrhonian may throw himself or others into a momentary amazement and confusion by his profound reasonings; the first and most trivial event in life will put to flight all his doubts and scruples.... When he awakes from his dream, he will be the first to join in the laugh against himself, and to confess that all his objections are mere amusement... (Hume 1958: 177-179)

Hume's failure to integrate scepticism into his daily life is itself the practical refutation of scepticism. Deeds, not words, are the most telling indicator of a philosopher's deepest convictions.

This essay focuses on one particular aspect of practical life: the actual defense of one's worldview. Many philosophers deny that we have, for example, rational minds or objective language. Yet, their very acts of writing and lecturing implicitly assume the contrary. Indeed, how else could they argue for their position? Consider, further, Hume's writings on scepticism. The very act of writing down arguments for scepticism implies that Hume does expect others to read and comprehend them. This, in turn, assumes the existence of an external world consisting of at least paper with symbols on it and other minds to whom the symbols on the paper are directed. It assumes also that, in reading Hume's book, the senses of other people will reliably transmit to the mind what is actually written down. Hence Hume's written defense of scepticism is self-refuting. As Johnson notes, "the [Hume's] *Treatise* itself is a sufficient refutation of the theory of mind it contains (1995: 309).

Indeed, Hume himself conceded that "custom...is the great guide of human life" (Hume 1958:47). Only Hume's habits of mind enabled him to accept such things as, for example, the principle of causality, whereby he could successfully navigate life. However, he was unable to give these a rigorous philosophical grounding in terms of his empirical presuppositions. Reductionist Michael Ruse, who bases his Darwinian epistemology on Hume's empiricism, reaches much the same conclusion. Ruse equates Hume's habits of mind with epigenetic rules, adapted through evolutionary survival (1998: 184). Although these epigenetic rules cannot be proven to be true, Ruse justifies their usage by the pragmatic fact that they work. Thus he asserts, "at the common-sense level, the Darwinian epistemologist is no more of a sceptic or a relativist than is Hume" (1998: 192). The difficulty is that neither Hume's nor Ruse's worldview can adequately account for the reliability of such common-sense knowledge.

The rational defense of any worldview necessarily presumes the existence of other minds, whose conscious thoughts we hope to influence by communicating, via external means, meaningful ideas through a common language. These in turn presume the existence of objective logical and rational standards. This essay maintains that various widely-held worldviews are incoherent in the sense that their rational defense necessarily presupposes concepts that are explicitly denied by that worldview. Any defense of such a worldview is self-contradictory and, therefore, irrational.

The Dilemma of Relativism

Many postmodern thinkers have abandoned the notion of objective truth. They view truth as a mere social construct, culturally and historically conditioned (Garcia 2000: 1-3). For example, Richard Rorty asserts, "there is no such thing as 'the best explanation' of anything; there is just the explanation that best suits the purpose of some given explainer" (Rorty 1991: 60). Rorty contends that we have no objective facts or knowledge, only linguistic constructs. Relativists Barry Barnes and David Bloor go so far as to insist there is no a priori structure to anything, not even logic. They insist that logic is merely "a learned body of scholarly lore" and a mass of conventional routines, decisions, expedient restrictions, dicta, maxims, and ad hoc rules" (cited in Kilian 1998: 112).

Yet, in any meaningful discourse we intend to convey particular assertions, rather than their opposites. This presupposes the laws of deductive logic. Aristotle, the first great logician, proved in *Metaphysica* that the Law of Non-Contradiction is basic to all purposeful communication (Aristotle 1952: 525). No meaningful proposition can assert of the same subject in the same respect an attribute and its opposite. To assert that a particular proposition is true, rather than false, is to apply the Law of Non-Contradiction. Other basic logical laws include those of identity, excluded middle, and rational inference. These laws are so fundamental that they are indispensable for any intelligent communication. Thus, any viable worldview must necessarily include the laws of logic.

Any proof of the subjectivity of reason must necessarily depend on reason. Thus any attempt to refute logical laws is self-refuting, since we must use logic to argue against it. Indeed, the rational defense of any worldview entails the usage of logic. Hence, we can reject as self-refuting any rational defense of irrationalism. It follows further that any viable worldview must be self-consistent, since no self-contradictory worldview can be rationally defended. In like fashion, also the claim that there exists no objective truth is self-refuting. Thomas Nagel notes:

The claim "everything is subjective" must be nonsense, for it would itself have to be either subjective or objective. But it cannot be objective, since in that case it would be false. And it cannot be subjective, because then it cannot rule out any objective claim, including the claim that it is objectively false. (1997:15)

In brief, the sceptical claim, "there is no objective truth," is itself a truth claim, contradicting itself.

Robert Garcia states that postmodern claims that no metanarratives exist or can exist are themselves realist claims about objective reality (2000: 1-2). Even the more modest claim that metanarratives are unknowable, because a person's perspective can never be overcome to obtain objective knowledge, is self-defeating. It amounts to the *objective* claim that objective knowledge is impossible. As G.K. Chesterton comments, "We do not know enough about the unknown to know that it is unknowable" (in Marlin 1987: 336). The dilemma of relativism is that it asserts a non-relative claim, which inevitably leads to its self-refutation. To avoid such difficulties one must modify one's relativism by allowing for at least some objective knowledge. For example, Gary Gutting (1999), whose pragmatic liberalism strives to improve on Rorty's ideas, takes as given a common-sense realism about the physical world (the existence of rocks and chairs) and the theoretical entities needed for

science (1999: 47).

The objectivity of language has been questioned also. Jacques Derrida, a prominent promoter of postmodernism and deconstructionism, writes that "there is nothing outside the text; all is textual play with no connection with original truth" (Derrida 1976: 158). Derrida contends that there is no fixed meaning in any proposition; we may interpret any text freely without being constricted by considerations of correctness of truth. Another well-known French deconstructionist, Michel Foucault, claims that every assertion of knowledge is an act of power. Foucault holds that there is no genuine discourse, no rhetoric capable of conveying "the truth," of showing us "the thing itself." On the contrary, all communication is concerned primarily with power; all discourse is violent. Foucault writes, "power produces; it produces reality; it produces domains of objects and rituals of truth" (Foucault 1977: 196). Jean-Francois Lyotard asserts that, since there is no inherent meaning in language, all speech is merely speaking-about-speech (1992: 2). Likewise, Barbara Smith urges that *doing*, rather than *meaning*, should be at the center of linguistic theory (1997: 52).

However, if language cannot communicate truth, if there is no fixed meaning in any proposition, how is it that deconstructionists nevertheless make use of language to convey that purported truth to us? The fact that they write and expect to be understood contradicts the very thesis they are defending. It is self-refuting to use language to convey the presumably objective notion that language can convey no objective meaning. Further, if language cannot represent the external world, as some postmodernists maintain, how is it that they can use language to convey that aspect of the external world (that language cannot represent it)? If language cannot be used to represent the external world, then it is self-contradictory to use language to represent this alleged fact about the external world.

Joseph Wagner (1991) argues that language presupposes objectivity and objectivity presupposes truth. Our capacity to identify and express subjective states derives from our capacity for objectivity, which in turn depends upon a capacity to observe rule-grounded distinctions. The meaning of words is conditional upon consistent usage (logical consistency) and objectivity. Without truth we could not coherently speak. Indeed, the capacity to challenge the truth of any claim presupposes a capacity for truth and, by implication, objectivity. Therefore to challenge truth or objectivity is by its nature self-refuting. Jürgen Habermas contends that the relativist's own speech acts depend on the essential nature of assertion, which includes acceptance of the rules of logic and the true/false dichotomy. Thus, according to Habermas, the sceptic, in the act of "involving himself in a specific argument with the goal of refuting ethical cognitivism...must inevitably subscribe to certain tacit presuppositions of argumentation that are incompatible with the propositional content of his objection" (1991: 82). Although language may be a human convention that determines what we say *about* the world, it does not determine the *contents* of the world. A Shakespearean rose, by any other name, still smells as sweet. Logical consistency and objectivity constitute universal meta-standards that constrain meanings and claims in any language.

If relativists were consistent with their professed beliefs, then they would have to

remain silent. Scepticism renders philosophical discourse null and void. Hume concluded his *Enquiry Concerning Human Understanding* with the following advice on how to choose books: “Does it contain any abstract reasoning concerning quantity and number? No. Does it contain any experimental reasoning concerning matter of fact and existence? No. Commit it then to the flames: for it can contain nothing but sophistry and illusion.” (Hume 1958: 184, italics in the original). Unfortunately, Hume's standard dooms his own works to ashes. Of course, thorough-going relativists may well shrug off the charge of inconsistency by objecting that, since they are repudiating logic, why should they be concerned with consistency? The difficulty is that, once they leave the shelter of their studies, even relativists must behave rationally in order to survive in their daily lives. They can hardly stop reading newspapers, traffic signs, and labels on medicine bottles. The fact that they cannot live out their worldview demonstrates its practical, as well as rational, absurdity.

Nevertheless, postmodernity rightly questions the modernist assumption that human reason can answer all questions and solve all problems. It rightly challenges the modernist quest for absolute, perfect, and complete knowledge. As Oskar Gruenwald points out, "the human odyssey in both faith and knowledge is inherently fallible, imperfect, and incomplete (I Cor 13:12)" (Gruenwald 1990: 8).

Naturalism and the Limits of Knowledge

Most scientists and philosophers are *naturalists*. Naturalists are realists who accept an objective reality that exists independent of one's opinions about it. Naturalism takes nature to be a closed causal system open to no external (or supernatural) influences. Nature is considered to be all there is. Natural science is taken to be the only valid source of knowledge. There is no *a priori* knowledge. Science is held to supply all the facts and values needed for life. This latter notion, although often incorrectly attributed to science, in fact goes far beyond the capability of science and is termed *scientism*.

Logical Positivism: Naturalism comes in various forms. One of these is *logical positivism*, which was an influential anti-metaphysical movement prominent in the first half of the twentieth century. Members of this school were much impressed by empiricism and the success of science. They asserted that if a sentence was not scientifically verifiable or a matter of logical truth, then it was nonsense. One of their chief proponents was A.J. Ayer (1936). He proposed the Verification Principle, which asserted that statements were meaningful and genuine only if they could be verified by public observation. All meaningful statements had to be potentially falsifiable by direct observation. This criterion was to filter out genuinely factual statements about the world. Ayer concluded that statements of theology, metaphysics, and ethics were, by this criterion, factually meaningless.

It soon became evident, however, that the Verification Principle itself could not be thus verified. Hence, according to its own standard, it, too, was meaningless. Ayer himself came to acknowledge the validity of this fatal objection (1959:35). He had to concede that language, even scientific language, could not be reduced to only observational terms.

Language must do more than merely refer to the physical world; it must accommodate also the world of ideas and concepts. Science needs these if it is to explain our observations in terms of theoretical entities and principles. Moreover, the notion that only scientific knowledge is valid knowledge is itself extra-scientific, for science cannot prove that it alone can provide knowledge about reality.

Physics-ism: Currently the most popular form of naturalism is *reductionism*, which comes in various types. First, there is *substantive* or *ontological* reductionism, which asserts that there exists only one type of substance. Most naturalists are *materialists* (also called *physicalists*): substantive reductionists who believe that only material things exist. Dualists, as opposed to materialists, believe that both material and mental (or spiritual) entities exist. Second, there is also *structural* or *causal* reductionism, which asserts that all structures and causes can be reduced to the one type of cause. Many materialists adhere to *physics-ism*, the belief that all of reality can be explained in terms of the properties of the most basic physical particles and their interactions. This creed is currently popular among scientists.

Physics-ism, if consistently applied, leads inevitably to the "astonishing hypothesis" of Sir Francis Crick: "The Astonishing Hypothesis is that "You", your joys and your sorrows, your memories and your ambitions, your sense of personal identity and free will, are in fact no more than the behaviour of a vast assembly of nerve cells and their associated molecules" (Crick 1994: 3). A similar stance is defended by Edward Wilson (1998) and Michael Ruse (1995). They contend that all our knowledge, beliefs, appreciation of beauty and perception of right and wrong, as well as our sense of personal identity, purpose and free will, are all mere illusions caused by our genes and brain neurons. The mind simply reflects the behaviour of the brain, which is totally determined by the interaction of brain neurons. Everything can in principle be fully explained by the laws of physics.

Can such a full-fledged reductionism be consistently followed through? First, as pointed out by C.S. Lewis in his refutation of naturalism, if all our beliefs are illusions, then so is the belief that our beliefs are illusions caused by genes (1947: 15). How, then, does a reductionist explain and justify his beliefs? Further, the statement that all our beliefs are illusions is self-refuting. It asserts two contradictory things: (1) that we believe certain propositions to be true; and (2) that these propositions are false because our beliefs are illusions. Clearly, one must give up one of these. But if we give up the second belief, then we do not really think we are deluded. If that belief is true, then we are not deluded. On the other hand, if we give up the first belief then we are not deluded, since we believe ourselves to see beyond the illusion. In either case, we are not deluded (Ward 1996: 171).

Second, it seems clear that only conscious beings can believe things. Thus, when reductionism reduces the conscious mind to mere neuron interactions, it destroys the possibility of belief and, if knowledge is justified true belief, of knowledge itself. Third, the reductionist belief that our thoughts are entirely caused by brain neurons leads to the conclusion that our thoughts are completely physically determined. However, as Karl Popper pointed out:

...physical determinism is a theory which, if it is true, is unarguable since it must explain all our reactions, including what appear to us as beliefs based on arguments,

as due to purely physical conditions. Purely physical conditions including our physical environment make us say or accept whatever we say or accept (Popper 1972: 224).

Similarly, John Eccles comments:

If physical determinism is true, then that is the end of all discussion or argument; everything is finished. There is no philosophy. All human persons are caught up in this inexorable web of circumstances and cannot break out of it. Everything that we think we are doing is an illusion and that is that...the laws of physics and all our understanding of physics is the result of the same inexorable web of circumstances. It is not a matter any more of our struggling for truth to understand what this natural world is and how it came to be.... All of this is illusion. If we want to have that purely deterministic physical world, then we should remain silent (Popper & Eccles 1977: 546).

If our thoughts are determined purely by physical processes, they are determined by the laws of physics, not logic. Hence, why should they be true? Physical determinism leads to scepticism.

Moreover, it is obvious that our minds *can* choose between activating different physical effects (for example, to write or not to write a paper). It is equally obvious that such a choice depends not just on physical factors, but also on non-physical ones, such as our sense of truth, justice, and purpose. Further, it is clear also that such non-physical causes cannot be reduced to the physical effects of neurons, if only for the reason that the former are concerned with abstract conceptions of possibilities and principles--with "oughts"--whereas the latter obey the laws of physics. David Hume has shown that one cannot deduce "ought" from "is". As Gruenwald notes, "the question of "ought," moral obligation, and experiences of goodness and beauty are unintelligible in the framework of the physical world" (1994:9).

Indeed, reductionists themselves, when publishing arguments aimed at rationally persuading others to change their minds, surely presume that their minds are causally affective (how else could they write out their thoughts?) and that thoughts are caused by other thoughts, rather than solely by brain neurons. It is therefore self-refuting to defend any view of reality that either denies the existence of mind or relegates it to a mere epiphenomenon. Crick calls his hypothesis "astonishing" because it is so contrary to our common sense experiences. Perhaps even more astonishing is that Crick himself seems unaware of the self-refuting nature of his hypothesis, even though he remarks on the almost limitless human capacity for self-deception (1994: 262).

A common argument against mind/body interaction is that this violates conservation of energy. According to Daniel Dennett, this is widely regarded as the "inescapable and fatal flaw of dualism" (1991: 35). Consequently, John Eccles defended dualism by postulating that quantum effects enable the mind to influence the brain without violating physical conservation laws (1994: 146). On the other hand, Euan Squires stresses that conservation of energy is only an empirical law, which should be readily abandoned if we

find circumstances, possibly in mind-brain interactions, in which it fails (1990: 22). The notion that conservation of energy must apply universally is itself, like induction, a metaphysical idea arising from the mind. Thus, it is self-refuting to allow the principle of universal conservation of energy, a product of mind, to rule out the efficacy of mind.

Naturalistic Evolution and Emerging Minds

Rationality depends critically on mental causation, which rules out physics-ism. This poses a problem for naturalists. Naturalists believe that everything evolved, via purely natural processes, from the initial matter/energy of the Big Bang (Giberson 1997:63). But how can physical entities evolve so as to produce non-physical, mental properties? Not, it is evident, through the usual process of naturalistic evolution. Naturalistic evolution views man as totally physical. Paul Churchland, a philosopher who supports naturalistic evolution, notes:

...the important point about the standard evolutionary story is that the human species and all its features are the wholly physical outcome of a purely physical process.... If this is the correct account of our origins, then there is neither need, nor room, to fit any non-physical properties into our theoretical account of ourselves. We are creatures of matter. And we should learn to live with that fact (Churchland 1984: 21).

Yet a "theoretical account" is surely, by definition, non-physical. Hence the very fact that Churchland does give a theoretical account undermines his own claim that there is neither need nor room for non-physical properties.

Some materialists, such as John Searle (1992), acknowledge that non-physical, mental properties do exist and propose that these mental properties emerge naturally from physical ones once a certain degree of complexity has been reached. However, they have yet to advance a detailed naturalistic explanation to illustrate how this might be accomplished. Indeed, the very notion of such emergence seems impossible. Particularly hard to account for is the problem of *intentionality*: our ability to have thoughts that are abstract and point beyond themselves (Moreland & Rae 2000: 164).

Searle distinguishes between two types of emergence (1992:112). A feature of a system is *emergent1* if it can be explained in terms of the causal interactions among its elements. For example, solidity and liquidity are emergent1 features of a system of molecules. *Emergent2* features are much more adventurous. A feature is emergent2 if and only if it is emergent1 and has powers that cannot be explained by the causal interactions of its elements. If consciousness were emergent2, then consciousness could cause things that are inexplicable by the causal behaviour of neurons. In that case, although consciousness arises through the behaviour of brain neurons, once it arrives it has a life of its own.

Searle conjectures, "...on my view consciousness is emergent1, but not emergent2. In fact, I cannot think of anything that is emergent2, and it seems unlikely that we will be able to find any features that are emergent2, because the existence of any such features would seem to violate even the weakest principle of the transitivity of causation" (Searle 1992: 112). Consequently, Searle ends up with an inert mind--a mere epiphenomena--

contrary to our common sense experiences, and contrary to what is required for rationality. Yet the emergence of even an inert mind seems to require type emergent², not emergent¹. The liquidity of water can be deduced from its composition but, even if we were to know everything about our physical brains, we could not deduce a single mental fact, since there is no necessary link between the physical brain and the non-physical mind.

Hence, the evolutionary biologist Sewall Wright concluded that the emergence of even the simplest mind from no mind is utterly incomprehensible. To Wright, "the emergence of mind from no mind at all is sheer magic" (Wright 1977: 82). The magic is doubly miraculous in that, according to naturalistic evolution, it is due--not to a magician--but to a presumed purposeless, random process. Similarly, materialist Colin McGinn finds the mind-body problem to be an unsolvable mystery (1991: viii). McGinn says:

"It would take a supernatural magician to extract consciousness from matter, even living matter. Consciousness appears to introduce a sharp break in the natural order—a point at which scientific naturalism runs out of steam...it seems to need an injection from outside the physical realm" (McGinn 1991: 45).

However, McGinn's commitment to materialism leads him to reject such a theistic resolution to the mind-body problem (1991: 47), leaving him with an intractable problem. Wright, on the other hand, opts for pan-psychism, the notion that all things, even atoms, have both a material and a psychic aspect. Although this may solve the problem of the origin of consciousness, John Eccles argues that it fails to explain how such consciousness can evolve into a causally effective force (1994: 5, 10).

Eccles contends that all materialist theories of mind, as well as pan-psychism, are in conflict with biological evolution (1994: 10). According to biological evolution, mental states could have evolved and developed only if they were causally effective in bringing about changes in the neuron happenings in the brain, with consequent changes in behaviour. This can occur only if the neural machinery of the brain is open to mental influences. Thus, any theory of mind that asserts the causal ineffectiveness of consciousness fails to account for the biological evolution of consciousness. Eccles concludes, "Since materialist solutions fail to account for our experienced uniqueness, I am constrained to attribute the uniqueness of the self or soul to a supernatural spiritual creation"(Eccles 1994: 180). Hence, the failure of a causal mind to emerge from matter rules out the substantial reductionism of materialism. Although this in itself need not entail theism, it does imply a dualism that acknowledges the existence of both physical and mental substances.

Reductionist biologist Richard Dawkins' boast that Darwin's evolution "made it possible to be an intellectually fulfilled atheist" (1991: 6) becomes rather hollow when the truncated world of naturalistic evolution denies us our very intellect.

Naturalism and Rationality

Moreover, naturalistic evolution fails to give a plausible account of man's ability for *rational* thought. Darwinism presumes that everything, including our cognitive faculties,

evolved through blind, random mutations coupled with natural selection. Our minds were allegedly honed to promote survival and maximize fitness. One would thus have little warrant for expecting our cognitive faculties to furnish us with true metaphysical beliefs. Charles Darwin himself had concerns on this point:

“The horrid doubt always arises whether the convictions of man’s mind, which has been developed from the mind of the lower animals, are of any value or at all trustworthy. Would anyone trust in the convictions of a monkey’s mind, if there are any convictions in such a mind?” (Darwin 1958: 68)

Similarly, Rorty admits that:

“The idea that one species of organism is, unlike all others, oriented not just toward its own increased prosperity but towards Truth, is as un-Darwinian as the idea that every human being has a built-in moral compass – a conscience that swings free of both social history and individual luck” (Rorty 1995: 32-36).

On this basis Alvin Plantinga (1993) concludes that it is irrational to believe in naturalistic evolution. According to Plantinga, naturalistic evolution gives us no reason to believe that our reasoning tells us the truth about the world. It just tells us what we need to believe to survive. But this, though effective, could be false. Thus, we have reason to doubt the truthfulness of our beliefs, including our belief in naturalistic evolution. So, if naturalistic evolution were true, then we have no good reason to believe it. Therefore, naturalistic evolution is self-defeating and it would be irrational to accept it. Plantinga concludes: "Naturalistic epistemology conjoined with naturalistic metaphysics leads *via* evolution to skepticism or to violation of the canons of rationality; enjoined with theism it does not. The naturalistic epistemologist should therefore prefer theism to metaphysical naturalism" (1993: 237). Michael Ruse, in responding to this argument, simply denies that truth can mean correspondence between one's ideas and reality. Ruse contends that we cannot get beyond the commonsense world to that of metaphysical reality. Rather, Ruse views truth as simply coherence among all one's beliefs (1998: 297). It is enough for Ruse that our reasoning works in practice.

This raises the question of rationality, which concerns the rightness or wrongness of our reasoning. There are rational "oughts" that prescribe how we are to reason. Given certain arguments and evidence, a rational person ought to accept the conclusions they entail. This implies the existence of objective laws of logic and rules of evidence, as well as an ability to reflect on those laws and genuinely choose among competing possible evaluations. On the other hand, Michael Ruse, as we noted, denies the existence of any objective criteria for rationality. From Ruse's pragmatic point of view, human rationality is determined by epigenetic rules developed via the evolutionary struggle for survival (1998: 206).

The materialist must solve the perplexing problem of how to derive a rational "ought" from a physical "is". Observations alone do not suffice, for we can observe only "is", not what "ought to be". Nor does deductive reasoning alone help, for it just establishes which conclusions follow from given premises; it does not tell us whether the premises are true. Moreover, there is also the problem of establishing that the laws of

deduction are themselves objectively true. Rational knowledge requires more than sense experiences and deductive reasoning. Immanuel Kant, in refuting the Humean empiricist notion that knowledge rests on experience alone, maintained that knowledge arises from the joint action of sensibility and the *a priori* concepts of understanding, where the former provides objects and the latter supplies meaning (Gruenwald 1990:13). Since rational norms, though essential to epistemology, cannot be derived from merely descriptive elements, Jaegwon Kim (1994) concludes that a "naturalized" epistemology is impossible. But in that case naturalism is reduced to pragmatic relativism, which yields no objective rational grounds for adopting naturalism.

Dallas Willard asserts that knowledge concerns the capacity to represent a subject matter as it is, on an appropriate basis of thought or experience (2000: 31). Essential to knowledge are (1) truth as correspondence to reality, (2) logical grounding in terms of the laws of deductive logic, and (3) a noetic unity--a knowing "self"--that provides coherence and direction to the web of judgments, perceptions, memories, etc. Truth and falsity are objective properties of representations that cannot be reduced to physical properties, since no physical property constitutes a representation of anything (2000: 39). Since logical relations connect the truth-values of propositions, it follows that these, too, cannot be reduced to physical properties. Moreover, logical laws are quite different from laws of physical or psychological fact. They are neither hypothetical nor inductive, remaining valid whether or not such facts obtain (2000: 41). Thus, Willard concludes, materialism cannot accommodate the ontological structure of knowing and knowledge (2000: 44).

Although, David Armstrong (1997) has defended a materialist metaphysics that accounts for properties, J.P. Moreland judges this to be inadequate. Moreland contends that materialistic naturalism must reject abstract objects of any kind (including sets, numbers, propositions, and properties) taken in the traditional sense of non-spatio-temporal abstract entities (2000: 67). In this vein, naturalist philosopher John L. Mackie denied the truth-value of moral claims, partly because he thought they required an inaccessible, fantastic, Platonic ontology (cited by Garcia 2000: 9). Similarly, Reuben Hersch rejects mathematical realism (the notion that there exist objective mathematical truths) because of the difficulties he has with the Platonic ontology this entails. Hersch writes:

Recent troubles in philosophy of mathematics are ultimately a consequence of the banishment of religion from science.... Platonism...was tenable with belief in a Divine Mind.... The trouble with today's Platonism is that it gives up God, but wants to keep mathematics a thought in the mind of God.... Once mysticism is left behind...Platonism is hard to maintain (1997: 42, 122, 135).

The same sentiment is expressed by Yehua Rav, who asserts, "There are no preordained, predetermined mathematical "truths" that just lie out...there. Evolutionary thinking teaches us otherwise" (1993: 81,100). As a result, Hersch and Rav demote mathematics to a mere human invention, with no pretensions to any objective truth. This is contrary to the realist working philosophy of most mathematicians and fails to explain the amazing applicability and universality of mathematics (David Grandy 1993: 21).

Many naturalists are scientific realists. They believe that scientific theories are about the real world and its laws, as it is objectively, independent of our practices. Robert Koons argues that scientific realism is incompatible with naturalism. One difficulty is that, in science, simplicity (symmetry, invariance, elegance) is taken to be a reliable indicator of the truth about natural laws. Such reliability requires a causal mechanism connecting simplicity with the actual laws. However, since the laws of nature pervade time and space, any such causal mechanism must exist outside space-time and, hence, is ruled out by naturalism (2000: 56). Koons concludes that naturalism therefore entails philosophical anti-realism, which entails that no philosophical theory (including naturalism) could be true (2000: 62).

It is evident, therefore, that materialistic naturalism has difficulty accounting for objective truth. Instead of absolute, objective knowledge, materialism is left with mere relative, subjective opinion. Materialistic naturalism, consistently applied, ultimately undermines itself and in the end leaves us with little more than does relativism. One can hardly argue that it is rational to accept materialistic naturalism, if such acceptance destroys the very possibility of objective rational standards.

To overcome these objections naturalism must take on a non-materialist form that can, at the very least, accommodate efficacious minds and objective knowledge. One such possibility is the pan-experientialism of process theology, which postulates that all entities--even atoms--have both a physical and a psychic aspect. David Griffin maintains that pan-experientialism can provide a naturalistic account of consciousness and the freedom presupposed in our scientific and religious activities (2000: 19).

Conclusions

To summarize, the rational defense of any worldview necessarily commits the defender to various presuppositions. These include the existence of other minds, the existence of a common language by which we can communicate meaningful ideas to those minds, external means of communication, mental causation, reliable thought processes, and objective logical and rational standards. Such presuppositions imply the existence of three distinct worlds: the physical world in which we live, the mental world of our conscious perceptions, and an objective, non-physical world of universal truths that exists independent of human minds. These are essentially the three worlds of Roger Penrose (1994), who ponders on the mysteries of how these worlds can mutually interact. Any coherent, rationally defensible worldview must acknowledge the existence of these three distinct worlds and offer an explanation of their origins and interconnections.

It is self-refuting to rationally defend any worldview that denies any element of what such a rational defense necessarily entails. By this standard, we criticized various forms of scepticism, relativism, and reductionism. These worldviews are, moreover, practically denied by the actual lives of their professed proponents. Such charges may, perhaps, not be very disturbing to relativists who, after all, profess to deny the very existence of any objective rationality. However, they should be of greater concern to reductionists, who generally value rationality highly. Why do they cling so tenaciously to such contestable worldviews?

John Searle intimates that some philosophers and scientists deny mental causes because they fear what they see as the only alternative:

How is it that so many philosophers and cognitive scientists can say so many things that, to me at least, seem obviously false? ...I believe one of the unstated assumptions behind the current batch of views is that they represent the only scientifically acceptable alternatives to the antisecularism that went along with traditional dualism, the belief in the immortality of the soul, spiritualism, and so on. Acceptance of the current views is motivated not so much by an independent conviction of their truth as by a terror of what are apparently the only alternatives. That is, the choice we are tacitly left with is between a "scientific" approach, as represented by one or another of the current versions of "materialism," and an "antisecular" approach, as represented by Cartesianism or some traditional religious conception of the mind (Searle 1992:3-4).

This suggests that, at heart, the commitment to materialism is driven by a deep quasi-religious motivation. The strong appeal of this irrational factor is voiced quite frankly by naturalist Thomas Nagel:

I am talking about...the fear of religion itself. I speak from experience, being strongly subject to this fear myself: I want atheism to be true and am made uneasy by the fact that some of the most intelligent and well-informed people I know are religious believers. It isn't just that I don't believe in God and, naturally, hope that I'm right in my belief. It's that I hope there is no God! I don't want there to be a God; I don't want the universe to be like that.... My guess is that this cosmic authority problem is not a rare condition and that it is responsible for much of the scientism and reductionism of our time. One of the tendencies it supports is the ludicrous overuse of evolutionary biology to explain everything about life, including everything about the human mind (Nagel 1997: 130-31).

The feared alternative is theism, particularly biblical theism. Biblical theism asserts that God has revealed truth to us through the Bible (Gruenwald 1990: 15), a further source of knowledge that enables us to advance beyond naturalism. God, Who is true Spirit, establishes and upholds all universal truths and moral norms. He has created the physical world according to a rational plan; He has created man in His own image (Gen1), so that man is rational and ethical (Garcia 2000: 11). Man's senses and rational abilities are generally reliable because God created them for that purpose. On this basis, Robert Bishop concludes, "the belief that the universe is rational, and that we are able to express that rationality, finds its ground in the Christian view of creation" (1993: 151). This conclusion is echoed by the non-theist Paul Davies:

"Even the most atheistic scientist accepts as an act of faith that the universe is not absurd, that there is a rational basis to physical existence manifested by a lawlike order in nature that is at least in part comprehensible to us. So science can proceed only if the scientist adopts an essentially theological worldview" (Davies 1995: 32).

After comparing the explanatory power of theism, naturalism and pantheism, with respect

to a broad range of scientific evidence, Stephen Meyer judges, "theism explains a wide ensemble of metaphysically-significant scientific evidences and theoretical results more simply, adequately, and comprehensively than other major competing worldview or metaphysical systems" (1999: 34). Biblical theism provides both the metaphysics and the epistemology to fully account for our diverse knowledge

Such considerations do not prove theism to be true. However, they do make theism rationally preferable to its current major opponents of relativism and naturalism. Of these three, only theism provides a solid grounding for rational discourse and scientific investigation.

Yet, as already noted, one's worldview is ultimately based on deep religious drives extending beyond rationality. According to biblical theism, man, although initially created good (Gen1), fell into sin (Gen 3). Consequently, man is inclined to rebel against God. His worldview is distorted by sin; he needs Scripture to interpret the world correctly. However, rebellious man would rather be irrational than submit to God's Word (Rom 1). Hence rational argument can have only a limited effect on the unbeliever. Gruenwald writes:

The essence of Christianity, and of Scripture, is that all men have sinned and fallen short of the glory of God, and that no man can save himself (Rom 3: 23-25). The great Christian hope is for God's gift of faith, the conversion and repentance of sinful man, and his acceptance of the unmerited Grace of Christ offering Himself on the cross for the expiation of sins, so that all who believe in Him may be saved (John 3:16) (1994: 19).

Only the operation of the Holy Spirit in the unbeliever's heart can instill the crucial gift of faith needed for conversion.

The choice of worldviews has pertinent implications for liberal arts education. According to John Hittinger, current liberal arts education is in a crisis caused by the fragmentation of knowledge and the lack of a coherent purpose to the curriculum (1999: 61). On the one hand, pragmatic deconstruction, as championed by Richard Rorty, asserts the utter lack of connections, the purely random play, and diverse purposes of human inquiry (Hittinger 1999: 76). On the other hand, the scientific reductionism of Edward Wilson strives to reduce all disciplines to physics. The lack of cohesion results in students who cannot transfer methods of analysis nor retain much knowledge (Hittinger 1999: 62). Hittinger relates the crisis in liberal education directly to the loss of theology. Religious conviction provided not only wonder and awe, but also a meaningful center to education: a belief in truth and ultimate meaning (1999:69). Thus, theology must be re-included in the liberal arts curriculum to provide overall cohesion and purpose; "an exploration of the dynamic interaction of faith and reason can provide an alternative to the postmodern despair of truth " (1999: 80). All disciplines can then, once again, mutually illuminate and correct each other.

Liberal arts education must above all address the quintessential questions of man, the meaning of existence, and how we should live. As pointed out by Gruenwald, these

central questions require a global approach relating the insights of all disciplines, facts and values, knowledge and faith, science and religion (1994: 21). An essential feature of such a global approach should be the detailed examination and comparison of the major worldviews, including theism, that aim to explain the full range of our richly varied universe. Only by regaining a full appreciation of the depth and comprehension of the Christian worldview, particularly in comparison with its competitors, can we adequately recapture the cohesive unity in diversity of a genuine liberal arts education.

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