
WILLIAM JAWORSKI, Fordham University

Thomas Nagel argues in his most recent book that the materialist worldview which has come to dominate academic philosophy and the non-academic philosophizing of many scientists cannot provide an adequate explanation of life’s origins. As a result, he says, we must consider seriously the alternative—not the theistic one favored by intelligent design theorists, but one inspired by Aristotle’s philosophy and its central notion of natural teleology.

Teleological explanations attribute end-directedness to things. The most familiar teleological explanations are intentional ones, but non-intentional teleological explanations are common in biology. Plants, for instance, grow leaves in order to capture energy from the sun. But presumably things like plants do not form intentions, so their end-directedness must be due to something else. In the ancient world, Plato suggested it was due to an external intentional source, an intelligent being who assigned functions to natural things the way people assign functions to artifacts. Aristotle disagreed. Natural teleology was not derivative and external, but basic and internal. Some things simply had innate tendencies to grow, develop, and behave in end-directed ways. Aristotle’s understanding of teleology was shelved after the Scientific Revolution, but Plato’s found modern sympathizers in William Paley and contemporary intelligent design theorists. Many people still consider it to be the only alternative to materialist accounts which try to eliminate teleology or to reduce it to something else. Nagel argues that these attempts fail.
According to Nagel, materialist theories lack the resources to explain the emergence of life. The reason is that they lack the resources to explain the emergence of consciousness, reason, and value. Adequate explanations must imply that the phenomena they explain are not mere chance occurrences but expected outcomes. Since consciousness, reason, and value are the most recent outcomes of the same process responsible for the emergence of basic biological phenomena, any adequate explanation of the latter must imply that consciousness, reason, and value were expected outcomes of the same process. Materialist theories are incapable of providing explanations of this sort, says Nagel; consequently, they fail to provide an adequate explanation for the basic emergence of life. We thus need an alternative. The one offered by theists is unacceptable both because it is incompatible with Nagel’s atheism and because by locating the intelligibility of the natural world in something outside that world, it fails to provide the kind of unified understanding that philosophy hopes to achieve. That leaves natural teleology: there is in the fabric of the cosmos a (non-intentional) predisposition to produce value, reason, consciousness, and life. Such a predisposition provides the additional conceptual resources needed to understand the emergence of life and mind.

*Mind and Cosmos* is independent-minded, thought-provoking, and relatively short. Nagel avoids technical jargon; although he tends to use terms like ‘materialism’ in proprietary ways that can make it difficult to map his ideas onto familiar debates. I also have some reservations about his arguments.

First, we’ve seen that according to Nagel a successful explanation of life depends on a successful explanation of consciousness, reason, and value. At times I found the rationale for this premise difficult to appreciate. Consider Nagel’s criticism of panprotopsychism. Panprotopsychism claims that the basic elements of the universe have both physical and proto-mental properties. Nagel claims that in order to explain the emergence of life panprotopsychists have to assign to the proto-mental properties of the elements a central role. But why can’t panprotopsychists endorse a two-
stage explanation: physical properties explain the origins of basic biological processes, and proto-
mental properties are powers that remain latent until basic biological processes first appear, at which
point they become active and operate to bring about consciousness? Think by analogy of two-stage
devices like a hydrogen bomb, which has fission and fusion stages. The detonation of a fissile core
creates temperatures hot enough to trigger the detonation of a fusile core. Couldn’t the physical
properties of the elements create conditions that subsequently trigger the activation of latent proto-
mental properties? In that case, the account of life’s origins, the biological processes that at a bare
minimum qualify something as living, would not have to appeal to proto-mental properties; those
properties would have to be invoked only to explain how something that qualified as living also
qualified as conscious.

Nagel does suggest a response. He argues that because mental properties and behavior are
“internally connected” in the lives of macroscopic organisms, proto-mental properties and proto-
behavioral physical properties would have to be internally connected in a similar way at the level of
their microscopic parts. Proto-mental properties would thus have to have physical implications at
the microscopic level just as full-blown mental properties do at the macroscopic level. Yet even if
there are internal connections between proto-mental and physical properties, as Nagel says, it is still
not evident why physical properties could not be sufficient by themselves to explain the basic
emergence of life, for this hypothesis is compatible both with physical properties necessitating the
activation of proto-mental properties and with physical properties being necessitated by them. It
thus seems possible either that proto-mental properties could factor into an explanation of basic
biological processes indirectly in the sense of explaining the physical conditions that were directly
responsible for the emergence of those processes, or else that they could play no role in explaining
the emergence of basic biological processes at all, as I suggested a moment ago, but only a role in
explaining consciousness. I’m not sure Nagel says anything that rules out this kind of view, but in
that case, it is no longer clear that a successful materialist explanation of life must depend on a
successful materialist explanation of consciousness, as he insists.

Nagel’s argument that materialism cannot explain the emergence of reason faces a similar
problem:

[S]uppose I observe a contradiction among my beliefs and “see” that I must give up
at least one of them… It is not adequate to say that… I feel the urgent need to alter
my beliefs to escape [contradiction], which is explained by the fact that avoiding
contradictions, like avoiding snakes and precipices, was fitness-enhancing for my
ancestors… (pp. 82-3).

An alternative picture of reason takes the ability to recognize and respond to contradictions to be
the result of training and habituation. Not only would this explain why some people apparently feel
no compulsion to reject either of a pair of contradictory beliefs, it would also mesh with what most
of us know about practical affairs; namely, people sometimes think and act in contradictory ways. If
responsiveness to reasons is a learned behavior, then an explanation of it will not appeal directly to
natural selection as Nagel suggests; it will appeal instead to learning. In that case, however, it is
possible to endorse a multi-stage explanation for rational capacities that separates the task of
explaining reason’s emergence from the task of explaining life’s emergence. Natural selection
explains our ability to learn, learning explains our ability to recognize and respond to reasons, and
both factors are separate from the physico-chemical occurrences that explain the basic emergence of
life. Nagel says nothing to rule out an account of reason like this, so it is once again unclear why a
successful materialist explanation of life depends on a successful materialist explanation of mind.
Third, Nagel’s argument that materialism cannot explain the emergence of value relies heavily on Sharon Street’s argument that moral realism and natural selection are incompatible. The argument’s key premise is that a capacity to discern moral truth would contribute nothing to reproductive fitness beyond what a capacity merely to act as if there is moral truth would contribute. By analogy someone might argue that an organism does not actually have to perceive environmental threats to act in ways that contribute to its reproductive fitness; it is enough for it to act as if it perceives a threat since false positives may be as effective promoting survival and reproduction as true positives. But there are surely limits to this reasoning. Something must explain how a capacity that generates false positives could manage to contribute to reproductive fitness, and in many cases the explanation will be that the same capacity also produces true positives. In the perceptual case, a disposition to act as if there are environmental threats contributes to reproductive fitness because sometimes there really are environmental threats. But then parity of reasoning suggests that a disposition to act as if there are moral truths contributes to reproductive fitness because sometimes there really are moral truths. To illustrate this point consider Nagel’s example of pain:

…the real badness of pain and the ability to recognize that badness are completely superfluous in a Darwinian explanation of our aversion to pain. The aversion to pain enhances fitness solely in virtue of the fact that it leads us to avoid the injury associated with pain, not in virtue of the fact that pain is really bad (pp. 108-9).

Suppose, however, that pain is not bad in itself, but that it is good for organisms like us to be capable of experiencing pain since pain enables us to avoid things that really are bad for us. A disposition to act as if something is harmful contributes to reproductive fitness because sometimes things really are harmful. On this view, which Nagel doesn’t address, the real goodness of pain-
capability and the real badness of harmful environmental factors are not completely superfluous to a Darwinian explanation of our aversion to pain.

Finally, even though Aristotle is Nagel’s touchstone for natural teleology, the view of teleology Nagel favors has a residual Platonic element. Like Plato, Nagel sees teleology as a cosmic tendency; the universe is almost like a giant organism that tends to behave in ways that produce life and mind. I’m not sure a contemporary Aristotelian would or should agree. Aristotle claimed that teleology could be found everywhere in the natural world not because the universe as a whole had innate teleological tendencies, but because the things that existed in the universe acted individually in end-directed ways. Organisms on the Aristotelian view are localized pockets of order and end-directedness within a cosmos that a contemporary Aristotelian needn’t take to have any overarching teleological tendencies of its own. Unlike Aristotle, we are convinced that the universe had a beginning, that living things did not always exist, and that what kinds of livings things there are can change over time. But contemporary Aristotelians can accommodate these ideas without turning the cosmos as a whole into something like a giant organism. This suggests a view that has a place for teleology, but that meshes with a Darwinian account of natural selection more easily than the cosmic teleology Nagel proposes.