

**Mind and Cosmos: Why the Neo-Darwinian Conception of Nature is Almost Certainly False** by Thomas Nagel. Oxford University Press, 2012, 130 pp. \$24.95 (hardcover). ISBN 978-0-19-991975-8.

The subtitle of this surprisingly brief volume by Thomas Nagel presages something more, and something less, than what at a glance it may seem to promise. In such a confined space as a mere 128 pages, coming from such a noted philosopher, one might expect that Nagel has consolidated and refined a highly focused, decisive argument against the prevalent materialist-reductionist account of mind and its place in nature. Those of a materialist view will not likely be concerned, since philosophical objections seldom seem to have much effect on that paradigm. On the other hand, those who feel deeply that something is amiss in the reductionist account might be a bit disturbed when they realize the import of the word *almost* in the subtitle. Is Nagel hedging his bets?

That puzzling “almost” is easier to understand, however, when we reach the concluding summary, which might better have been placed right up front on page 1.

Philosophy has to proceed comparatively. The best we can do is to develop the rival alternative conceptions in each important domain as fully and carefully as possible, depending on our antecedent sympathies, and see how they measure up. That is a more credible form of progress than decisive proof or refutation (p. 127).

And this is what Nagel sets out to do most brilliantly. But there is another phrase in this philosophically subtle paragraph that belies any impression that Nagel himself is uncertain about the topic. That is his reference to “our antecedent sympathies.” Nagel’s own sympathies are clearly present throughout and are firmly negative when it comes to materialistic reductionism. But he is not dogmatic about it, and this produces quite another kind of argument. Nagel argues most compellingly against the materialist view by first delving deeply into every nook and cranny of the multiple possible theories about mind and its relation to the cosmos, then inviting the reader to understand, and hopefully share, his own profoundly personal and philosophically careful conviction that reductionist theories lead to a dead end.

In his chapter on values, for example, after having admitted that some options he has been detailing which are contrary to the materialistic view are “offered merely as possibilities and without positive conviction,” he explains what he *is* convinced of.

What I am convinced of is the negative claim that, in order to understand our questions and judgments about values and reasons realistically, we must reject the idea that they result from the operation of faculties that have been formed from scratch by chance plus natural selection, or that are incidental side effects of natural selection, or are products of genetic drift (p. 125).

In other words, what Nagel *himself* is convinced of after exhaustive and informed study of the various options, and after consideration especially of what it is to be a human being living in a world of “values and reasons,” as well as consciousness, selfhood and meaning, is that (exactly as the subtitle says) the reductionist conception of nature is “almost certainly false.” It is almost certainly false because dumping all those important aspects of what it is to be human into

a trash heap is not only unacceptable, it is a profound misconstrual of the natural world.

What is really entailed by Nagel's "almost" is that while the failure of the reductionistic paradigm seems clear, the success of the most likely alternative theory is, in our current state of knowledge, still beyond reach. That does not mean, however, that there may not be an alternative theory offering more promise of success than does the prevailing paradigm. This paradigm is the orthodox view, and as Nagel points out, "any resistance to it is regarded as not only scientifically but politically incorrect" (p. 5). In opposing this view, Nagel uses an end-run strategy. He mounts a hypothetical argument, the "argument from the failure of psychophysical reductionism," which means working from the premise that such reductionism *is* false, and seeing what must result from that assumption (p. 15).

The assumption of the argument is not arbitrary. Nagel believes that there are empirical reasons to adopt a skeptical view with respect to the reductionist program. He is working from a basis of informed skepticism. And as he puts it that skepticism has to be rather strong.

For a long time I have found the materialist account...hard to believe, including the standard version of how the evolutionary process works. The more details we learn about the chemical basis of life and the intricacy of the genetic code, the more unbelievable the standard historical account becomes...It seems to me that, as it is usually presented, the current orthodoxy about the cosmic order is the product of governing assumptions that are unsupported, and that it flies in the face of common sense (p. 5).

This not at all indeterminate position sets the overall tenor of the book. On the one hand, Nagel delves into the empirical reasons for adopting a skeptical view, throwing in a couple of powerful logical reasons as well. On the other hand, he explores possible alternatives to the materialist view and which of the alternatives, in his opinion, is the most probable one. At times his argument is rather involved. I find that on a first reading the overall organization of the book is not immediately clear, at least until the closing chapters. A second and even a third reading, however, reveal jewels of careful thought that in this reader's opinion are not only rewarding, but are a significant contribution to the discussion.

One of the primary reasons against the reductionist view which Nagel cites repeatedly is that the application of the criterion of "fitness" to such experiential factors as consciousness, cognition and value simply does not work. These three factors represent, in fact, the division of chapters in the book. After an introduction and overall survey of issues and alternatives, chapters 3, 4 and 5 discuss those topics in that order. In this limited space I do not attempt to represent or evaluate the multitude of arguments literally crammed into the book. All are challenging and all are carefully set forth. I will however summarize some of that material and then turn to what I feel is the most important contribution of the book.

When Nagel refers to consciousness as an acknowledged feature of the world, he tends to use the phrases "subjective appearances" or "subjective experience" (pp. 35-36). He does not intend "subjective" here to imply a Berkeleyan subjective idealism, the view that only appearances are experienced rather than objective reality. In clarification, he provides "the aspect of mental phenomena that is evident from the first-person, inner point of view of the conscious subject" (p.38). He makes the point that identification of such experiences with a physical brain state constitutes a serious logical error, citing an argument made by Max Black (pp. 39-41).<sup>1</sup>

In this discussion, Nagel distinguishes between a *constitutive* and a *historical* explanation of consciousness (p. 54). The attempt to identify a subjective experience with a brain state is an example of a constitutive explanation of consciousness. A historical explanation would be a demonstration of how some evolutionary theory would explain consciousness as the eventual result of a process of natural evolution. Nagel, however, makes a very interesting and definitive move; he does not dispute evolution as such, but only neo-Darwinian evolution as allied with physical science and based on chance mutation and survival of the fittest. This important diversion plays a role in his discussion of alternative theories.

As a proper philosopher, Nagel thrives on the making of important distinctions. Along with the distinction between constitutive and historical explanations, he employs a distinction between “external” and “internal” explanations. These distinctions are applied to a further distinction between three main theories of mind in relation to cosmos. (So as the reader can intuit, things tend to get rather complex.)

The two external theories are the materialistic and the theistic theories. They are “external” because in those theories the driving force in evolution derives from an external source: the operation of chance mutation under physical laws in the first case, and the intentions of a divine creator in the other (p. 21 ff.). Nagel finds both of these theories lacking as a means of accomplishing a *transcendent* self-understanding, which would mean a comprehensive understanding of ourselves, including our most salient features such as consciousness, cognition and values, as natural expressions of the cosmos. (I will come to a discussion of the third proposed alternative momentarily). In the three chapters that follow, Nagel employs yet another distinction, that between emergent explanation of consciousness and reductive explanation. The reader, then, can anticipate quite an array of alternatives and evaluations of each.

In this endeavor, Nagel employs a large-scale set of general criteria against which he finds the two “external” theories, in whatever manifestation, lacking. Essentially, these criteria stem from the nature of “our own existence.”<sup>2</sup>

Our own existence presents us with the fact that somehow the world generates conscious beings capable of recognizing reasons for actions and belief, distinguishing some necessary truths, and evaluating the evidence for alternative hypotheses about the natural order. We don't know how this happens, but it is hard not to believe there is some explanation of a systematic kind – an expanded account of the order of the world. (P.31).

In order to get hold of this strong criterion, which echoes Nagel's previously quoted reference to common sense, it is important to realize that all these things Nagel cites as facts of human existence have been increasingly *denied* in the halls of cognitive science – or, as philosopher/physician Raymond Tallis put it recently, by those addicted to “Neuromania” and “Darwinitis” (Tallis 2011 p. 40). Common sense, which Nagel cites as important, is regularly dismissed as a false “folk psychology”<sup>3</sup>

In contrast, it is precisely this move – denying the existence of what the current paradigm cannot explain – that Nagel takes as empirical evidence that the materialistic explanation fails. It is worthwhile to note the difference between the way Nagel makes his appeal to experience as the criterion and the way Tallis expresses it. Nagel, in his concise 128-page essay, speaks largely in terms of general categories of experience, such as the category of our ability to reason or the category of our belief in objective truths about moral and ethical matters. Tallis, on the other hand, utilizes his 358 pages to house much more detailed descriptions of what that experience, with its unfathomable and perhaps ineffable depths, actually is – an experiment which indeed

every person can carry out as he or she goes about in daily life (e.g. Tallis 2011, pp. 75-80). It is his reliance on these facts of experience that Nagel fundamentally appeals to in his remark on “our antecedent sympathies.” Nagel does however include a brief account of the sorts of experience Tallis recounts in more detail, citing the “incredible riches” of experience, including “beauty, love, pleasure, knowledge, and the sheer joy of existing and living in the world” (p. 120). In effect, the challenge to the reader is this: “look closely at your life – and then tell me you can agree that you are not a self but a machine devoid of free will, consciousness, knowledge and value.”

Summing up his initial overall perspective at the end of his first chapter, “Antireductionism and the Natural Order,” Nagel cites “the respective inadequacies of materialism and theism” which he has dealt with briefly in that chapter and which he will pin down in more detail in the following chapters. Despite these inadequacies of present theory he argues for the impossibility of giving up the task of understanding, with the hope that the future may lead to “an expanded but still naturalistic understanding that avoids psychophysical reductionism” (p. 32). At this point, Nagel makes a statement that many, and particularly the vast majority of physical scientists, will perceive as scandalous. It is an expression of the third possibility, which is an internal, rather than external, theory.

“...such an understanding would be to explain the appearance of life, consciousness, reason and knowledge...as an unsurprising if not inevitable consequence of the order that governs the natural world from within. That order...will not be explainable by physics and chemistry alone. An expanded, but still unified, form of explanation will be needed, and *I expect it will have to include teleological elements*” (pp. 32-33, my emphasis).

Here we get down to the bottom line of Nagel’s book. In denial of the dogma of standard scientific practice against any explanation that dares to suggest a purposive impulse in the natural world, Nagel proposes that an expanded evolutionary theory must involve a teleological factor; but not a teleology resulting from the inscrutable intentions of a supernatural creator. Rather it must be what Nagel calls a natural teleology, coming from within the cosmos rather than coming from either the will of a divine creator or the action of an inadequate set of physical laws which preclude the telic factor. It would assert that directionality of evolution leading to the development of life and consciousness must belong *internally* to the natural world at every stage of its existence, from the Big Bang onward.

Here, then, is where Nagel steps in where angels fear to tread. So powerful is the bias against any explanation of evolutionary development that includes a teleological factor, that Nagel may expect a cold welcome from those committed to the dominant paradigm. And this propels him into initiating some discussion of how the process of the evolution of life and consciousness can involve a teleological factor without assuming a single telos or goal – in other words, the theory is not a theory of externally predetermined goals, but yet one of purposiveness in nature: Cosmological directionality without a closed conclusion.

Nagel’s essay into this treacherous realm is not extensive. He cites an important analysis by Roger White to the effect that a confusion exists when it is assumed that since the intentional theory must be rejected, no alternative account of evolution remains but the mechanistic one (p. 90). Following up on this point, he provides a brief foray into the question of what a “natural teleology” would be. It would have to be distinct from appeal to the operation of chance, from external supernatural intention, and from blind physical law (p.91). Is such a conception of teleology in nature possible? Nagel returns here to his guiding principle of careful philosophical

exploration as well as his view that whatever the answers to the evolutionary dilemma are, they will not be those of the standard paradigm and they will eventually be discovered.

A naturalistic teleology would mean that organizational and developmental principles of this kind are an irreducible part of the natural order, and not the result of intentional or purposive influence by anyone. I am not confident that this Aristotelian idea of teleology without intention makes sense, but I do not at the moment see why it doesn't (p. 91).

In making this move, Nagel is walking on a philosophical and a scientific tightrope between the other alternatives. But his contribution to the discussion is significant for two reasons. The first is that it emerges from a strongly argued skepticism as to the value and likely success of the materialist reductionist approach as well as a general rejection of supernatural explanations. Many will agree with him that the actual nature of human experience constitutes an empirical reason for rejecting the former, and many others, including most scientists, will agree with him that creationism will not fly.

The second reason is that he has framed the way to, and re-opened the topic of, a teleological factor in providing a transcendent internal understanding of who, what and why we are. With respect to this last reason, its importance, in my view, is that Nagel does not write from a base within those philosophical genres where this same subject of teleology in evolution and in the nature of life has already been put forward, but from within a genre of philosophy where such things are generally avoided like the plague. The evidence of this apparent neglect is that literally none of those thinkers whose views might be relevant (but whose views have been in recent times universally excluded from mainstream philosophical thought) are included in the index or mentioned in the book.

That said, I wish to devote the final paragraphs of this review to the latter, with whom Nagel has actually more in common than one might think. Uppermost in this respect is Nagel's strong view to the effect that there must be a *continuity* in the evolution of consciousness from the earliest stages of the cosmos, i.e. from the moment of the Big Bang. In other words, living things have some degree of consciousness all the way back to the origin of life, and the laws of nature must have contained that potentiality throughout the course of time. This affirmation of continuity throughout the course of evolution such that the existence of consciousness in ourselves testifies to its presence, potential or actual, over the play of cosmic time really places Nagel's tentative conclusions within the context of those past but presently *persona non grata* philosophers who agree with him and who place continuity at the heart of their own transcendent internal understanding of humankind.

For the sake of brevity, I will mention only a few of those individuals whose ideas seem not to have found their way even into a footnote in Nagel's book. Offhand I would mention Henri Bergson (1911), American Pragmatists such as John Dewey (1929) (strongly influenced by Bergson), the Jesuit philosopher Pierre Teilhard (1955), and more recently Hans Jonas (1966), Professor of Philosophy at the New School for Social Research in New York City from 1955-1976. All these individuals, each in their own way, impinge on the issue of natural teleology raised by Nagel and in this writer's opinion each should be assessed and re-evaluated in terms of what they may provide for the discussion.

Bergson explores the nature of the continuity of time in living existence, which speaks to a different conception of time than that of the laws of physics. Dewey argues for continuity in the development of cognition over the course of evolution and at the same time insists that the salient features of experience cannot be denied by theory at the peril of impoverishing our self-

understanding into a dead end of eternal dualism. Teilhard, while always under fire for his apparent view that there is a fixed goal of evolution in the dispensation of the Second Coming, nevertheless asserts in no uncertain terms that if consciousness is present in humankind, it must be present in potential or actual form from the beginning of time; and further that development must never come to absolute closure but must remain always open for further understanding – a *telos* more consistent with what Nagel feels has to be the case. And Jonas engages in a lengthy and detailed critique of the difference between “purpose” in a mechanism (i.e. the purpose built into its mechanical design) and the nature of purpose in biological teleology (Jonas 1966, Fifth Essay, esp. p. 126).

Bergson, of course, is accused of insupportable Vitalism. Dewey’s efforts seem to many to be antiquated and (unjustly) to smack of a form of behaviorism. The value of Teilhard’s overall theory is weakened by the appearance of its seemingly intentionalistic character despite the fact that his “Omega” *telos* is strangely non-supernatural in certain ways. As far as Jonas’s work goes, his analysis is concise, pointed and accurate, and he speaks in a language more accessible to those working within the contemporary philosophical genre.

In avoiding reference to these other views, Nagel achieves a valuable separation of his analysis from the sorts of knee-jerk criticisms to which they have been subjected. Yet I would suspect that elements from the views of these and similar thinkers must, in the event, necessarily fructify Nagel’s search for a viable articulation of his desire for a “natural teleology.”

Stan V. McDaniel  
April 8, 2013

## REFERENCES

- Bergson, Henri (1911), *Creative Evolution*. Random House Modern Library edition, 1944,
- Dewey, John (1929), *Experience and Nature*. Dover reprint edition, 1958.
- Friedrich, Carl J. (1949), *The Philosophy of Kant*. New York, Modern Library.
- Jonas, Hans (1966), *The Phenomenon of Life*. Dell publishing, N.Y., (a Delta Book)
- McDaniel, S. V. (2011), Review of *Aping Mankind: Neuromania, Darwinitis and the Misrepresentation of Humanity* by Raymond Tallis. *The Journal of Scientific Exploration*, Vol. 25, Number 4, Winter 2011
- Teilhard, Pierre (de Chardin) (1955), *The Phenomenon of Man*. Harper & Row, N.Y. 1965, (Harper Torchbook TB383) First English edition 1959.
- Tallis, Raymond, (2011), *Aping Mankind: Neuromania, Darwinitis and the Misrepresentation of Humanity*. Acumen Publishing, Durham.

## ENDNOTES

<sup>1</sup>. In making this distinction between the Berkeleyan subjectivity and his own point, Nagel is in a position similar to that of Kant, who also has been interpreted almost universally as advocating a kind of subjective idealism despite his efforts to make clear that this is not his position at all. Cf. Friedrich 1949, p. xxix.

<sup>2</sup>. There is a close parallel here between what Nagel refers to as “our own existence” and the concept of *experience* as articulated within the philosophical position of John Dewey’s philosophy of pragmatism: “If experience actually presents esthetic and moral traits, then these traits may also be supposed to reach down into nature, and to testify to something that belongs to nature as truly as does the mechanical structure attributed to it in physical science” (Dewey 1929, p. 2). It is notable that there is not a single reference to Dewey or to the pragmatists, in Nagel’s account.

<sup>3</sup>. For a description and criticism of these views, see Will Wilkenson.

<http://enlightenment.supersaturated.com/essays/text/willwilkinson/churchlanddebunked.html>