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The Unity of All Knowledge: The Need for Both Science and Theology in Understanding Reality

“The faith in the order of nature which has made possible the growth of science is a particular example of a deeper faith.” (A. N. Whitehead, *Science in the Modern World*)

In the ongoing debates about science in relation to theology, much is often made of the fact that science is a newcomer on the stage of human history, and the sixteenth and seventeenth centuries, when modern science emerged, are sometimes described as the dawning of the light that dispelled the darkness of the “demon-haunted world.”¹ Small wonder, then, that theology and science are sometimes seen as mortal enemies, the new and the old vying with one another for favored status in the human mind. This picture also involves the notion that science and theology represent utterly separate realms of knowing. In the worst of these caricatures, science is seen as displacing theology, and the two disciplines are regarded as having no conversation with one another.

I want to challenge this view of things by suggesting that, in their *origins* and *presuppositions*, science and theology are not, in fact, separate at all; though very different in their *methods*, they have the same origin and the same purpose. For a deeper understanding of reality they are both necessary.

To make this case, I want first simply to imagine, say, *Homo erectus* on an African savannah, observing the properties and advantages of fire, how it scares away wild animals, cooks meat, and produces heat. And then, our intrepid hominid wonders if it might be possible to control and use fire, and indeed something like 1.1 million years ago our hominid ancestors did just that. Some time later, they learned not only how to control fire, but also how to produce it by striking rocks or rubbing sticks together.² Obviously, such learning involved not only burnt fingers, but trial and error — what today we would call observation, theory, and experiment: the scientific method. To be sure, this was only primitive science, but long before the sixteenth century humans

were probing and testing their world in attempts to understand and control it; witness, the ancient civilizations.

But now let's imagine our early hominid doing a different sort of probing of the world. This time she is simply, say, gazing into the fire and wondering, "Why am I here? Who made this world and what is my relationship to it?"³ You and I, living a million years further down the evolutionary line, might say, "This has nothing to do with science; now she's into philosophy or theology." But, that's cheating; that's imposing on our African ancestor classifications of knowledge that only developed much closer to our time than to hers. For her, all knowledge of her world is simply knowledge of her world. Questions about fire and questions about the meaning of existence all have the same origin and purpose; they are simply human (or hominid) probing of the world for purposes of understanding. For her, "theology" and "science" are indistinguishable, and all of her probing, as all of ours, requires a profound trust in the mind's capacity to make contact with reality.

THE PRESUPPOSITIONS OF SCIENCE AND THEOLOGY

Fast forward about a million years and you arrive back here, at a point where even philosophy and theology are distinguished from one another and both of them are regarded as utterly distinct from the natural sciences. But our intrepid ancestors have something to teach us. All human knowledge, of whatever sort, derives from the same desire to know and understand. I am not suggesting that theology and science are not distinguishable from one another. We have vastly more knowledge than our African Eve and the distinctions we have created among the disciplines are truly necessary. Science and theology have different methods, and both must have independence to develop their bodies of knowledge. Nevertheless, both disciplines, obedient to the mind's insatiable desire for genuine understanding, are at heart simply different methods for exploring reality.

But that brings us to a crucial problem. The advances of science have convinced many that science *alone* provides the path to true knowledge and understanding. Richard Dawkins, Daniel Dennett, and others maintain that appeals to religious knowledge are no more than appeals to superstition and nonsense. We, therefore, have to ask: Is their purely materialist view of the universe and of human knowledge the view that we should all espouse, if we are to be intelligent, thinking humans?⁴ My response to this is a firm "No," and my reasons do not only have to do with religious faith. Very basic philosophical reflection can demonstrate that a purely materialist view of the universe — named "naturalism"⁵ — is self-defeating. Naturalism's claim that the sciences alone produce genuine knowledge is self-contradictory, since the natural sciences cannot prove any such thing. Naturalism is a philosophy, and it is no more sci-

entifically provable than any other philosophy.⁶ Nevertheless, the notion that science produces the only truth worth having has insinuated itself persuasively into much of modern culture, and thus to many people it *appears* that science has effectively ruled theology off the stage.

One way to address this challenge is to consider human knowledge and its presuppositions. Theology and science are both attempts to discover the truth about reality; theology does so through examining the spiritual dimensions of the universe, science through the physical dimensions. In terms of *method*, science focuses only on material stuff and physical laws; theology focuses on reality in more abstract terms. Science has the obvious advantages of physical observations, tests, and proofs, but the disadvantage of not being able to explore beyond the boundary of the physical. Theology, on the other hand, has the obvious disadvantage of being unable definitively to test the truth of its claims, but the advantage of taking subjective experience seriously, and of operating in the realm of ultimate explanations with awareness of *all* types of knowledge, including science. What science and theology have in common is the universe in which they dwell and a common trust in the human capacity to understand reality. In other words, they have in common two presuppositions of all human knowing: (1) the rationality of humans and (2) the rationality of the universe.⁷

Both disciplines presuppose that humans have a *reliable* capacity to attain *genuine* knowledge of *objective* reality. The italicized adjectives are important. We can all cite examples of human knowing being *unreliable*, reaching *false* conclusions, and creating *illusory* realities. But our very capacity to argue that something is “false,” whereas something else is, at least, somewhat closer to the “truth,” witnesses to our common presupposition that humans have a capacity to discover the nature of the reality in which we live.⁸ The love of learning, and even some of the discoveries, of Christian medieval universities were the seedbed of modern science.⁹ The distinguishing feature of the scientific movement was not its desire to discover the truth about the world, but its discovery of a new *method* in the pursuit of truth — a way to isolate physical phenomena and to explain them in terms of cause and effect.¹⁰ Human rationality, however, has always been in pursuit of truth, and indeed it has pursued truth relentlessly, not being ultimately satisfied with any one theological or scientific view.¹¹

A CRITIQUE OF NATURALISM

The first scientists saw no contradiction between their beliefs in God and their revised understandings of the world; to the contrary, what their discoveries and calculations represented were simply attempts to understand more fully what God had created.¹² One of the problems with naturalism — the insistence that the physical universe is the sum of all that is — is its setting of a boundary to close off any explora-

tions beyond the realm of the physical. Human rationality is innately resistant to being confined within limits. Indeed, the very attempt to set a limit to human knowledge already witnesses to the mind's capacity for transcending limits and boundaries,¹³ and it is especially ironic today in that modern science increasingly suggests the potential value in considering transcendent realities as a way to understand the ultimate nature of the universe.¹⁴ In any event, an obvious problem with naturalism is its materialist account of human rationality.

Naturalism, being bound to a purely materialist view of humans, claims that rationality has arisen purely by chance from a mindless universe. Such a view cannot be dismissed outright, but in the light of what science is suggesting about the nature of matter, it is by no means the most obvious hypothesis. More than that, such a view seems to fly in the face of the *trust in human rationality* that has been an indispensable presupposition of the quest for understanding that is inherent in both theology and science.¹⁵ Theologians and scientists alike implicitly trust that their minds are fundamentally geared toward the truth. Observation and experience lead to probing and experiment; critical thought leads to further inquiry in an endless search to understand more deeply.¹⁶

This fundamental trust in the human mind, however, is undermined by naturalism's claim that the mind is no more than an accidental phenomenon that, by blind chance, has arisen from a mindless and purposeless universe. If such a claim were taken seriously, then there would be no basis for trusting in the mind's capacity for truth. As John Haught has argued persuasively, the investigations of naturalists themselves witness to the transcendent nature of truth. Truth is not so much an entity that humans create and to which they can give an ultimate definition; rather, truth (like the universe itself) transcends human knowledge and invites humans into understanding of it.¹⁷ Humans do not so much grasp the truth as they are grasped by it, and invited always into deeper and deeper exploration. Michael Polanyi, the scientist turned philosopher, says the following:

Scientific tradition derives its capacity for self-renewal from its belief in the presence of a hidden reality, of which current science is one aspect, while other aspects of it are to be revealed by future discoveries. Any tradition fostering the progress of thought must have this intention: *to teach its current ideas as stages leading on to unknown truths* which, when discovered, might dissent from the very teachings which engendered them.¹⁸

Some naturalists have gone so far as to "explain [away] religion" by claiming that it evolved because the brains of our ancient African ancestors created unseen (divine) agencies as a simple extension of their natural ability to explain and understand the

visible agents of their world. Within naturalism's framework, which utterly dismisses the supernatural, the obvious implication of this is that our brains have a considerable capacity for deception.¹⁹ But how can such an understanding of the evolved human brain produce trust in its products (reasoning and conclusions)? And how is it that naturalists have the ability to rise above the brain's deceptive power so as to discover the truth about the mind's power to deceive?²⁰ If minds come from mere mindlessness, then minds are hardly trustworthy conduits for getting in touch with reality. Modern science, however, requires no such notion. To the contrary, recent science suggests that the universe, from its first moments, held the capacity for life and mind,²¹ and this is not without significance for philosophy and theology.

Matter, apparently, has a self-organizing character. This is not only true at the biological level, but at the most fundamental levels of neutrons and electrons. Long before there was life, there was the possibility of life built into the stuff and the laws of the universe.²² And long before any hominid could contemplate fire, there was the possibility of contemplation in the very "knowledge" contained in the primordial quarks and gluons which are the basic stuff of the universe. The universe, somehow, has produced rationality; in a very real sense, humans (and other conscious beings) represent the universe's ability to contemplate itself. Human self-awareness is the universe knowing *itself*.²³ That brings us to consider the rationality of the universe.

THE CORRESPONDENCE BETWEEN HUMAN RATIONALITY AND THE RATIONALITY OF THE UNIVERSE

The rationality of the universe, meaning its conformity to regular laws and patterns, is an indispensable presupposition of science, which science inherited from theology.²⁴ The order of nature is not something that science can prove to be present once and for all.²⁵ Each scientific advance discovers and, to some degree, confirms its presence. Sometimes, the order previously discovered turns out to be inadequate or false, as when heliocentrism surrenders to the discovery of galaxies or the mechanical universe to the quantum. This process is repeated in every area of the natural sciences, whether through observation or theory and experimentation. Whatever the means, all that science can do is to discover the order and rationality that are already present. Science, like theology before it, cannot confer order, it can only hope to discover and explore it. "The truth," so they say, "is out there."

These two presuppositions — trust in the rationality of humans and trust in the rationality of the universe — are foundational of all human knowing, whether the concrete type, produced by science, or the abstract type, produced by theology. Both have to rely on the human capacity to seek the truth and on the universe's, and reality's, capacity to be known. If either one was not present, neither science nor theology

would represent genuine knowledge; both would simply be “a tale told by an idiot, full of sound and fury, signifying nothing.”²⁶ Neither science nor theology, however, accepts that view of human knowledge; both believe, as already said, that genuine knowledge about reality is possible. The human capacity to know and the desire for truth in some way correspond with the intelligible laws of the universe and reality’s openness to being known.

This correspondence, which we so much take for granted, but which is so utterly mysterious,²⁷ suggests that we need to pay greater attention not just to the methods by which we pursue the truth, and to the results, the knowledge, we gain in the search. We need also to pay attention to *ourselves, the human subjects* and to our insatiable desire to understand not just the universe, but the reality that gives rise to it. Without human subjects, after all, there would be neither theology nor science.²⁸

Might it be that, from our own critical intelligence, there are clues about the nature of the universe itself?²⁹ If human minds represent the universe knowing itself, as an evolutionary perspective on self-awareness certainly suggests, then what is it about the universe that we can learn from introspection about our unending desire to know the truth about ourselves and our encompassing reality? Naturalism, since it insists that intelligence is no more than an accidental product of a purely material and an essentially mindless process, cannot account for the subjectivism of human experience; it can only dismiss it. Indeed, there are some naturalists who essentially deny the reality of mind and consciousness,³⁰ thereby denying that the subjectivism of human experience can have any significance for a deeper understanding of reality. Such a stance, however, exalts scientific theories above the human beings who have created them, so that science ends up defining humans, rather than vice versa.³¹ Fortunately, science itself does not require any such ideas, nor does science suggest that ancient human wisdom, including theological wisdom, has nothing to teach us about who and what we are.

The development of science has been truly amazing, in terms both of what it is and of the advanced technology it has brought; the light after the darkness (note 1 above) is not a *wholly* inappropriate metaphor. Of course, the development has not been without its costs; weapons of mass destruction and environmental degradation are only the most obvious. More subtle is the pervasive mythology that science is the sum and substance of human knowledge, that science alone can reveal us to ourselves. This ultimate objectifying of nature and of human beings has undoubtedly made its own contribution, along with other human perversions — including religious perversions — to the stripping of the earth and the annihilations of millions.

THE ESSENTIAL ROLE OF HUMAN SUBJECTIVITY

Faced with this materialist philosophy — what I have termed naturalism — careful attention needs to be paid to both the extent and the limits of human knowing. Science alone is not sufficient here. Of its very nature, science as such cannot delve into human subjectivity. Science's genius is its ability to isolate and focus on the “irreducible and stubborn facts”;³² it functions in the realm of objectivity and theory, observation and third-person description. The subjectivity of human judgment, interpretation, creativity, and reflection are not the proper objects of scientific inquiry. This is not to blame science, merely to describe it.³³

Self-awareness and critical intelligence, along with other amazing facets of the universe, invite the kind of reflection that is native to the abstract thought of theology. In trying to understand why intelligence and an insatiable craving for the truth — the whole truth and nothing but the truth — have emerged from the stuff of the universe, science is inevitably reduced to silence. Such a question is beyond its physical purview, and naturalism can only repeat its established dogma, that the universe is essentially mindless, but that by some strange accident, mind has emerged from mindlessness.

As John Haught has argued, however, such an assertion flies in the face of the very trust in the search for truth which is as much a characteristic of the naturalists as of everyone else.³⁴ In order to satisfy the human longing for ultimate truth, and to gain an understanding of the universe, which is consistent with the emergence of human rationality, we must look beyond science, and we cannot be satisfied with the limiting view of naturalism. Theology has a vital contribution to make here; it alone can point to the Mind of the universe as the ultimate way to understand the rationality, meaning, and purpose which humans experience as foundational to existence. The uniqueness of human beings does not permit settling for a diminished account of reality.

Ernst Mayr, a famous American biologist, in his book *What Evolution Is* addresses the question of human evolution, and as we would expect describes the close relationship between humans and other primates: “It would be quite irrational,” he says, “to question this overwhelming evidence.” He also addresses “the uniqueness” of humans and says the following:

When it was realized that apes had been man's ancestors, some authors went so far as to state “Man is nothing but an animal.” However, this is not at all true. Man is indeed as unique, as different from all other animals, as had been traditionally claimed by theologians and philosophers. This is both our pride and our burden.³⁵

For Mayr this is not a religious statement; he believes it is consistent with the scientific comparison of humans with other animals, including the other primates. Though

the basis of the assertion is different in each case, science and theology are in complete agreement here. And that agreement points to the reason why there is a unity to all human knowledge; all knowledge derives simply from the human mind, subjectivism and all, without which neither science nor theology would be possible.

CONCLUSION

That takes us back to our intrepid hominid ancestor learning to control fire and gazing into it, wondering about the purpose of existence. She did not divide her knowledge and theories into theology on the one hand and science on the other. It was all just a matter of striving for understanding. Given the vastness of our knowledge, we now have to distinguish one discipline from another. But in doing so, we would do well to recall that there is only one universe, and all of us are essentially united in our desire for the truth. As theology would express it, the Creator is as responsible for science and Darwinism as for the Bible and theology; neither one should be subsumed to the other.

All knowledge ultimately has a unifying point; our inability to see that point does not mean that it does not exist. And the ultimate reconciliation of science with theology lies in recognizing both the genius and the limitations of all our human perspectives.

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NOTES

1. The first major section of John Gribbin's *Science: A History* (London: Penguin, 2003) 3–103, is titled “Out of the Dark Ages”; and note Carl Sagan's famous book, *The Demon-Haunted World: Science as a Candle in the Dark* (New York: Ballantine, 1996). Gribbin (xvii) begins the history of modern science in 1543. A. N. Whitehead, *Science and the Modern World* (New York: Free Press, 1925, 1953), names the 17th century as “the century of genius” (39–55), which gave the modern world its scientific outlook and — more important for our purposes — its “fixed scientific cosmology,” which he names “scientific materialism” (17). I will refer to this with the term “naturalism” (see note 5 below). Gribbin illustrates Whitehead's point about “scientific naturalism” perfectly. His opening sentence reads: “The most important thing that science has taught us about our place in the Universe is that we are not special” (xvii). Science, of course, can teach nothing of the kind. It can teach that humans have evolved in the same way as “amoebas” and apes (see xix), but “specialness” is not a scientific category.
2. See Richard Leakey and Roger Lewin, *Origins Reconsidered: In Search of What Makes Us Human* (New York: Anchor, 1992) 47 & 117, and Lee R. Berger, *In the Footsteps of Eve: The Mystery of Human Origins* (Washington, DC: Adventure, 2000) 152–53.
3. I have no idea, of course, when such abstract thinking began. Were pre-*Homo sapiens* hominids capable of abstract thought, or was it a capability modern humans developed only comparatively recently? In any event, what is “abstract thought”? Does it require consciousness? If so, what is consciousness? Fortunately, for our purposes, answers to these questions are not necessary. For some interesting

perspectives on these issues, see Merlin Donald, *A Mind So Rare: The Evolution of Human Consciousness* (New York: W. W. Norton). Less technical, but also insightful, are Robin Dunbar, *The Human Story: A New History of Mankind's Evolution* (London: Faber & Faber, 2004), and Felipe Fernandez-Armesto, *So You Think You're Human? A Brief History of Humankind* (Oxford: Oxford University Press, 2004).

4. This summary, of course, does no justice to their writings, which are stimulating and important contributions to modern thought. Nevertheless, it is fair to say: (1) they presuppose a purely materialist view of the universe, (2) they believe that modern science is the only way to true knowledge, and (3) they dismiss religion as being able to add to the human ability to understand the universe. See, for example, Daniel C. Dennett, *Darwin's Dangerous Idea: Evolution and the Meanings of Life* (London: Penguin, 1995); Richard Dawkins, *The Blind Watchmaker: Why the Evidence of Evolution Reveals a Universe Without Design* (New York: W. W. Norton, 1996). For a recent, very vigorous defense of naturalism, see W. B. Drees, *Religion, Science and Naturalism* (Cambridge, UK: Cambridge University Press, 1996). For an equally vigorous refutation, see Langdon Gilkey, *Nature, Reality and the Sacred: The Nexus of Science and Religion* (Minneapolis: Fortress, 1993). His summary (13–15) of naturalism — he calls it “scientific positivism” — is helpful.
5. See John Haught, *Is Nature Enough? Meaning and Truth in the Age of Science* (Cambridge, UK: Cambridge University Press, 2006) 2 et passim. Mariano Artigas, *The Mind of the Universe: Understanding Science and Religion* (Philadelphia: Templeton Foundation, 2000) 12 et passim, uses the term “scientism.” Both are referring to a philosophical outlook, not to science itself, nor to any conclusions that necessarily arise from science (see note 1 on Whitehead, above).
6. Naturalists themselves willingly admit this (e.g., Richard Lewontin, “Billions and Billions of Demons,” *New York Review of Books* 44 [Jan. 9, 1997] 31, quoted in Haught, *Is Nature Enough?* 118–119).
7. In addition to Haught and Artigas (note 5), these reflections are also largely inspired by Langdon Gilkey, *Religion and the Scientific Future: Reflections on Myth, Science and Theology* (New York: Harper & Row, 1970), especially chapter II, “Religious Dimensions in Science,” and *Nature, Reality*, especially chapter 3, “The Nonscientific Bases of Science.”
8. There is not space here to argue with those (within “postmodernism” and elsewhere) who maintain that there is no such thing as secure, objective knowledge. An excellent response to postmodernism on this point is provided by Edward O. Wilson, *Consilience: The Unity of Knowledge* (New York: Vintage Books, 1998) 43–48. I presuppose here the stance of “critical realism,” the view that human knowing, within limits that must constantly be probed, can achieve in its symbolic structures a general approximation of the realities it seeks to understand. For discussions of “critical realism,” see Gilkey, *Nature, Reality* 36, 69–73; John Polkinghorne, *Belief in God in an Age of Science* (New Haven: Yale University Press, 1998) 101–124.
9. See Artigas, *Mind of the Universe*, 21–23, and Peter E. Hodgson, *Theology and Modern Physics* (Burlington, VT: Ashgate, 2005) 19–39.
10. Whitehead, *Science*, 8–11, characterizes “the scientific movement,” along with the Reformation, as “the [16th – 17th century’s] historical revolt” against “the inflexible rationality [also termed “unbridled rationalism”] of medieval thought.” “Historical revolt” here denotes, for the reformers, a return to “the origins of Christianity” and, for science, insistence upon “irreducible and stubborn facts.”
11. This point is made strongly and to good effect by Haught, *Is Nature Enough?* 31–42.
12. It is also true, of course, that from the earliest days there were conflicts between “theology” and “science”; this should neither be denied nor exaggerated. See Ian Barbour, *Religion and Science: Historical and Contemporary Issues* (San Francisco: Harper, 1997) 3–32, for a nuanced evaluation.
13. See Haught, *Is Nature Enough?* 42.
14. I have in mind here the self-organizing properties of matter that have become of increasing interest in recent years; see Artigas, *Mind of the Universe*, 94–96 et passim (and note 22 below).

15. Langdon Gilkey, *Religion and the Scientific Future*, 40–64, and John Haught, *Is Nature Enough?* 32–54.
16. John Polkinghorne, *Belief in God* 25–47, provides historical examples of science and theology going through “radical revision” in light of “new phenomena.” There are, of course, endless examples of stubborn adherence to ideas and beliefs *contrary* to all evidence. On the other hand, various factors, both internal and external to the human mind, force, if necessary, further movement toward the truth that we can only discover. See Michael Polanyi, note 18.
17. Haught, *Is Nature Enough?* (e.g., 89–90, 102–107).
18. Michael Polanyi, *The Tacit Dimension* (New York: Anchor Books, 1967) 82 (emphasis added). He continues: “. . . [T]hought has intrinsic powers, to be evoked in men’s minds by intimations of hidden truths. It respects the individual for being capable of such response: for being able to see a problem not visible to others, and to explore it on his own responsibility. Such are the metaphysical grounds of intellectual life in a free, dynamic society: the principles which safeguard intellectual life in such a society. I call this a society of explorers” (82–83).
19. For example, Pascal Boyer, *Religion Explained: The Evolutionary Origins of Religious Thought* (New York: Basic Books, 2001), and Loyal D. Rue, *By the Grace of Guile: The Role of Deception in Natural History and Human Affairs* (New York: Oxford University Press: 1994).
20. See John Haught, *Deeper than Darwin: The Prospect for Religion in the Age of Evolution* (Cambridge, MA Westview Press, 2003) 97–100. Haught has developed this critique of naturalism in far more detail in *Is Nature Enough?* (e.g., 110–113).
21. See Artigas (note 14) and Rees (note 22).
22. This has often been noted in recent popular scientific writings: for example, Paul Davies, *The Mind of God: The Scientific Basis for a Rational World* (New York: Simon & Schuster 1992); Martin Rees, *Just Six Numbers: The Deep Forces that Shape the Universe* (New York: Basic Books, 2000). Rees himself realizes that if this is the only universe there is, then the chances of the numbers turning out just right are infinitesimally small and suggest the possibility of “a benign Creator” (1–4, 164–166). He resorts, therefore, to the hypothesis of a “multiverse,” with our universe being just one of a myriad of universes, which, however, we cannot know of directly. This last idea he develops more fully in *Before the Beginnings: Our Universe and Others* (Cambridge, MA: Helix Books, 1997).
23. Gilkey, *Nature, Reality*, 176, says, “Because our minds, as well as our wills — our entire ‘person’ — are products of nature, nature is in part but also in truth known from the inside; or better, here nature knows itself from inside.”
24. Whitehead, *Science* 18, says, “Faith in reason [of scholastic theology] is the trust that the ultimate natures of things lie together in a harmony which excludes mere arbitrariness. It is the faith that at the base of things we shall not find mere arbitrary mystery. The faith in the order of nature which has made possible the growth of science is a particular example of a deeper faith.”
25. See Artigas, *Mind of the Universe* (e.g., 62–71).
26. William Shakespeare, *Macbeth*, Act V, scene v; Macbeth, on hearing that Lady Macbeth is dead.
27. Davies, *Mind of God*, 20–21.
28. See Ernst Mayr (below) on the uniqueness of human beings, and Gilkey, *Nature, Reality* 37–38.
29. John Haught, *Is Nature Enough?* 139–142.
30. Donald, *Mind So Rare*, as a *scientist*, vigorously protests against this. Note, for instance, his sharp critique of Daniel Dennett (39–45).

31. Artigas, *Mind of the Universe* 221, after careful analysis of scientific method in relation to broader theories of knowing (207–221) concludes with this protest: “Perhaps . . . we should learn to look at empirical science, and even more at the human being who does it, with more respect. . . . [A]n enormous disproportion [exists] between our achievements in empirical science and our understanding of them. . . . Perhaps we should learn to admire more what we are, and to dismiss as nonsense theories that attempt to measure human beings by comparing us with some of our particular achievements, and even replacing us with them.”
32. See Whitehead, note 10 above.
33. This is not to say that science cannot, and does not, attempt to understand things like human intelligence and consciousness, and indeed it must do its utmost in this regard. Science, however, has inevitable limits when it comes to the inwardness of human subjectivity. As Donald’s description indicates (*Mind So Rare* 16–21), science has to atomize consciousness and intelligence; self-awareness, intuition, creativity, and other fundamental aspects of human inwardness are not analyzable in scientific terms. Whether they ever will be is impossible to say at this point.
34. Haught, *Is Nature Enough?* (e.g., 114–116).
35. Ernst Mayr, *What Evolution Is* (New York: Basic Books, 2001) 236 & 252.