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A Simple Choice: Review Essay



by Carl P. Fictorie

In the beginning” is a phrase well known to those who are reading this essay. However, this time the quotation finds its source not in Scripture but in another source. The passage from which this phrase is drawn reads as follows:

First, there is the beginning.
In the beginning there was nothing. Absolute void, not merely empty space. There was no space; nor was there time, for this was before time. The universe was without form and void. By chance there was a fluctuation....From absolute nothing, absolutely without intervention, there came into being rudimentary existence.¹

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This quotation opens the final chapter of Peter Atkins’ book *Creation Revisited*. Atkins is a physical chemist who has also written extensively for popular audiences. In *Creation Revisited*, Atkins makes the argument that the universe came into being as a result of random events and is not in need of any sort of Supreme Being to create it. In this last chapter, Atkins is very clearly taking his form and style from Genesis 1 but is reinterpreting it in light of his materialistic worldview. Throughout this book, Atkins argues that the universe is very simple, and that everything in the universe can be understood and explained in terms of a handful of basic physical principles. Atkins ends his book with this cold conclusion: “In such a universe there is still no purpose behind the benevolence of the forces” and “That still does not imply a purpose; we can still remain the children of aimless chance.”² By now it is clear that Atkins is an atheist, one who sees the universe as nothing more than a collection of physical objects that came about by the purely coincidental balance of forces.

Atkins is the type of person that Wiker and Witt take to task in their recent book, *A Meaningful World*, although they do not cite him directly. Wiker and Witt open with a story about an alien who visits Earth and who, in an attempt to understand the despair rampant in human culture during our time of modern prosperity, concludes, “A poison has entered human culture.... It’s the assumption that science has proven that the universe is without purpose, without meaning—proven it so clearly that one need not even produce an argument.’...The poison, however, is real. This book is written as an antidote” (13).

Atkins is an unapologetic modern prophet of this purposeless universe, and he is significant because he has written several popular works interpreting fundamental physical laws, has written several popular chemistry textbooks, and has served on national and international committees that have produced educational materials. Atkins is the kind of intellectual professor that defines the establishment within the university.

Wiker and Witt then proceed to develop their primary thesis—that the universe is “meaning-full.”³ They open, not by describing what they understand of the concept of *meaningful* but rather how they understand the concept of *meaningless*. They characterize meaningless in the sense that the inherent meaning in things is not absent but has been lost and needs to be rediscovered, in the same manner that a new language needs to be learned. As they develop their idea of meaning, they introduce the notion of genius to suggest that nature shows undeniable evidence of genius and, therefore, requires a creator/designer as an explanation of this genius.

The argument that Wiker and Witt use is original, starting with the works of Shakespeare as a model for understanding meaning and genius. Wiker and Witt give us a set of criteria to explain what constitutes a work of genius (75–78), characteristics that include *depth* (of meaning, vocabulary, etc.), *clarity* (neither obscure nor drab but able to communicate so that we comprehend, but not easily), *harmony* (all things working together), and *elegance* (a coherent and pleasing unity in diversity the opposite of deconstruction). They show that Shakespeare, given the depth, clarity, harmony, and elegance of his works, is a genius. From this idea, they conclude that genius is only possible when there is a real author who wrote the poetry and plays, and cannot be the result of random chance. Hence, if a work, any work, displays the marks of genius, one can reasonably conclude that it is the product of purposeful design.

This would be a good argument except that Atkins could similarly describe the universe with these same adjectives, all the while maintaining his reductionistic, materialistic worldview. It takes relatively little study to conclude that the universe illustrates depth, ranging from subatomic particles all the way to clusters of galaxies. Atkins certainly

believes in clarity, claiming that everything in the universe can ultimately be understood by us humans. The universe is also harmonious, with the particles and forces working together, and explicable, in terms of a yet-to-be-discovered single equation. Finally, Newton’s equations of motion, the four laws of thermodynamics, quantum mechanics, and even the periodic table are elegant, encapsulating grace and form while

Referring to “meaning,” Wiker and Witt identify the heart of the matter: “meaninglessness is only an assumption, a dogma that keeps many from seeing what should be obvious” (17). It is, we might add, an assumption grounded in the sinful nature of the heart of man himself.

being simple and effective. That is, even though the universe is replete with characteristics of genius, it can be explained in purely material terms. In fact, in Atkins’ thinking, humans, including Shakespeare, have evolved, ultimately from the Big Bang, via a series of chance events that need no more explanation than the material processes of entropy and natural selection.⁴ But in explaining it that way, the materialist necessarily narrows the meaning of the very terms used. Atheists still use the term “meaning,” but they do so only in reference to the relationships in the data and make their explanation in terms of mechanistic natural laws.

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is only an assumption, a dogma that keeps many from seeing what should be obvious” (17). It is, we might add, an assumption grounded in the sinful nature of the heart of man himself. If, as the authors argue, evil is “parasitic on good” (29, 251), and the assumption of meaninglessness is grounded in sin, or evil, then meaninglessness is fundamentally a problem of sin and is not a secondary concern (251).

However, Wiker and Witt attempt to argue for meaning on the basis of the state and nature of creation. In this way, they are among those who argue for intelligent design. They believe that by immersing the reader in the intricacies of nature and by showing that the genius of nature parallels the genius of Shakespeare, they will provide an antidote to the problem. But this approach is also their weak point. By failing to attack the assumption as an assumption, by failing to address the condition of the heart that supports this assumption, they fail to make a convincing argument and fall short in their task of writing a book that serves as an antidote.

That failure does not suggest that the book has no value. What this book does do is remind the Christian of the proper understanding of nature’s place. Nature has been created by a genius designer, God, and because he is infinitely wise and almighty, it follows that creation will display the characteristics of a work of ingenious design.

Wiker and Witt give several eloquent examples of how design concepts can help us appreciate the interrelationships, potential, beauty, and multilevel order in physical constructs such as the periodic table and the ubiquitous chemical, water. But simply reminding us of nature’s place and increasing our appreciation of its qualities will not make this book the antidote they hope it will be. A person who is open to the notion of design will find a helpful view of the world and will be encouraged to a theistic belief. However, the staunch atheist will not be swayed.

Wiker and Witt also argue for a designer on the basis of human appreciation of beauty. They write, “What we deny is the crudely dogmatic reduction of the desire for beauty to these [materialistic] levels alone. . . . Thus, ours is the more inclusive argument, the one that truly describes our entire human appreciation of beauty; it doesn’t dogmatically exclude the higher or reduce what is higher to the

lower aspects of our nature” (116-117). As part of their effort to argue for a designer, Wiker and Witt argue for an anti-reductionist interpretation of nature, thereby using the hierarchy of structure to contradict reductionist materialism. Herein lies their challenge: beauty, intelligence, genius, etc., cannot be fully explained or appreciated exclusively in terms of physical or material causes. But that argument will not convince an ardent materialist, who refuses to look beyond material causes because he does not believe there is any other explanation needed.

Atkins appeals to Ockham’s razor to justify his reductionism:

Science, as I have said, favours simplicity. Science is the arch-descendant of Ockam. How dare those theologians so obscure the truth by their gildings, their hangings, their sentiment, their wishful thinking, their personal fears, and their network of intrusion into personal liberty! They have no right to claim that ‘God’ is an extreme simplicity, and as cogent and potent an explanation of our origins as is necessary. A ‘God’ is the embodiment of complexity, the ultimate antisimplicity.

In seeking to understand our origin and our purpose science examines whether an absolutely minimal approach is sufficient. Only if a minimal approach is explicitly demonstrated to be inadequate may there be some justification in indulging in the soft furnishings of additional hypotheses.⁵

Atkins claims that God is complex, while science seeks the simple. Atkins sees religion as the antithesis to science, basing its explanations on “a purposeful, unknowable, and incomprehensible irreducible complexity” called God.⁶ Atkins is building his argument on the notion that God has historically been used to explain those things which science could not. To Atkins, God is the complex being that is needed to fill in the gaps in our knowledge. Therefore, God is obscure because he cannot be understood except by the theologian (in a very mystical, veiled, and disguised sense).

In addition, Atkins argues that the reductionist model of science has enabled humans to develop a significant understanding of nature, and in this he

is quite correct. It has been precisely when scientists (and the natural philosophers who preceded them) were willing to dig into the details of nature, to attempt to sort out those areas in which existing theories fell short, that our understanding of the workings of nature has improved. That is, when humans took the stance that nature is a functioning whole, held together by ordered laws that are comprehensible to humans and are the contingent creative activity of God, our ability to discern those patterns really flourished.

In using a reductionist theory, however, scientists can begin to do two related things. First, if they do not need to invoke an act of God to explain how nature works, they can easily question whether one needs God at all. Second, if humans are able to come to a thorough understanding of how nature works apart from a belief in God, they can develop hubris, a personal god-complex. These are Atkins' failings: he has both questioned the need for God and, in so doing, displayed hubris.

Wiker and Witt's fifth chapter, "The Periodic Table," illustrates how patterns of understanding in nature can develop when we turn to empirical methods. Their purpose is to use the history of the development of the periodic table to show "...how many ways human beings *as knowers* contradict the canons of materialist reductionism" (111). Starting with the ancient metallurgists, who worked with readily available gold to make jewelry rather than tools or weapons, Wiker and Witt suggest that these first chemists, along with their perfumer, potter, and dyer counterparts, worked more for the sake of beauty than practicality. They counter the evolutionist, who claims that beauty is a consequence of sexual attraction, with the claim that this early chemistry operated at other levels as well, seeking out beauty for the sake of beauty as truth.

They then turn to the intellectual pursuit of the notion of elements—to the Greek philosophers who sought to understand the ultimate nature of matter primarily through reason. By the beginning of the first millennium, we have two parallel threads. The artisans had the practical skills to manipulate materials into beautiful objects without asking why, while the philosophers worked at understanding the ultimate nature of matter without necessarily working with the actual materials. The artisans are the empiricists who do not build a theoretical

science, while the philosophers are the rational theorists who fail to use empirical data.

Then they introduce the alchemist, who brought the technical skills together with the quest for ultimate knowledge, as manifested in the philosopher's stone, and thereby developed a vast array of methods and knowledge about the chemical world. In the sense that alchemists merged theoretical and practical knowledge, they are the first empiricists. They were driven by a goal which was not necessarily useful or ultimate, the search to make gold, but which reflects a belief in the ultimate order within nature, order that can be known.

It is the search for an underlying order that led the first modern chemists, including Boyle and Lavoisier, to be open to and seek out new elements or, more importantly, to recognize the fundamental category of element within nature. Boyle is highlighted because it was he who emphasized that the study of chemistry is valuable in its own right, not because of any practical use or base emotion (124). From this historical study outlining the impractical purposes for studying nature, Wiker and Witt infer that a raw reductionist interpretation—that science is explicable in terms of basic instincts—is impossible (145). However, this argument is drawing from what the evolutionist would claim is recent history in human development. That is, human development started with sexual desire, but as humans continued to evolve, and their brains developed, other related abilities arose, including a curious appreciation for beauty and order within nature.

Wiker and Witt also suggest a correlation between our conviction of underlying order in nature and the actual discovery of that order. That correlation is tutorial in fashion, leading from the macroscopic to the microscopic, through multiple levels that cannot be explained by accident alone. They conclude, "One level of accidental order could be the result of chance; multiple layers of integrated order, configured in a way that is strikingly amenable to discovery, implies conspiracy. If we find out *through* scientific discovery that the universe is intricately ordered in a way that invites discovery, then it's most reasonable to cease trying to imagine ourselves as the hapless creatures of a nihilist cosmos" (145). This connection is overstated, however. The materialist will argue that

when there is sufficient evidence of unlikely events occurring, one cannot systematically eliminate chance as a possibility. From the point of view of the materialist, then, it is reasonable to conclude that bulk-scale order is a necessary consequence of simple and fundamental laws. In addition, being creatures within the cosmos necessarily implies that we are connected to it and that if we have any intelligence, that intelligence would correlate with the structure of the cosmos because it is made of the stuff of nature.

What this book does do is remind the Christian of the proper understanding of nature's place. Nature has been created by a genius designer, God, and because he is infinitely wise and almighty, it follows that creation will display the characteristics of a work of ingenious design.

Moving from this study of how humans develop patterns of understanding nature to a discussion of the manner whereby nature itself illustrates the genius of design, the sixth chapter of Wiker and Witt outlines the argument found in *The Privileged Planet*, by G. Gonzalez and J. W. Richards. The argument is grounded in the observation that the universe has a number of physical properties and fundamental constants, which all must be carefully tuned and balanced so that humans can exist. This is known as the "anthropic principle." Because of the high degree of precision needed for these constants, the

argument suggests that the likelihood of a designer behind it is the most reasonable conclusion.

However, physicists such as Weinberg, whom Wiker and Witt cite several times, argue that we still do not need a designer. Rather, we are still a product of chance, and it just so happens that we are here. If the universe had not turned out the way it did, we would not exist to talk about it. Weinberg interprets this low probability of a designer in terms of the "multiple universe theory," which states that other universes have existed, and that we are just part of one that allowed us to come into being.⁷ Wiker and Witt simply dismiss this conclusion (169), even though it is the one Weinberg's own science suggests.⁸ In modern physics the most fundamental theory of matter is called "string theory." While it is still a very new theory, and largely hypothetical at this point, the work done on this theory so far suggests that there may be a large, potentially infinite, number of solutions to the models within this theory.

According to Weinberg, the way to interpret this infinite number of solutions is to postulate multiple universes, a different universe for each solution to the model. However, each of these universes would remain inaccessible to us, so this part of the model is not testable. Weinberg justifies this conclusion with the comment, "The test of a physical theory is not that everything in it should be observable and every prediction it makes should be testable, but rather that enough is observable and enough predictions are testable to give us confidence that the theory is right."⁹ Weinberg himself is admitting, in effect, that science cannot answer every question, and that some things have to be inferred beyond the available data.

Wiker and Witt miss an opportunity to challenge the presupposition of this materialist. Weinberg, given his materialism, concludes that the material explanation, multiple universes, is correct; he also concludes that our existence is now highly probable because with an infinite number of universes, at least one will produce us. On the other hand, given that we cannot observe alternate universes (even though they may be conceptually possible), it seems equally reasonable to infer that only one universe exists, the one we are in, and that the particular universe we inhabit was chosen, with the fine-tuning of the constants carefully selected, to make us possible. In other words, it

would seem that a creator hypothesis is no less reasonable a conclusion than that of Weinberg.

But at this point we are now reaching beyond the current boundary of science. Weinberg suggests that we exist in the one universe, out of an infinite number of universes available that can support our existence, while Gonzales and Richards submit that the uniqueness of our universe is best explained as the work of an intelligent designer. The reason for choosing between these two metaphysical options cannot, by the admission of both sides, be directly proven from the available evidence. Therefore, one has to make the choice based on other sources of information.

Weinberg and Atkins would claim that there is no other admissible information, that we have sufficient explanation with the materialistic understanding, so everything else is superficial. However, we are able to draw other conclusions based on this line of reasoning. Weinberg and Atkins both understand that in a purely material universe, the idea of purpose has no meaning and that, therefore, our existence is no more significant than the existence of any animal, plant, or, for that matter, mineral. Nor is there any basis for morality beyond mere social contract, if that even. We lack significance in a universe that is unimportant. Atkins explains this way:

My scientific world-view is bleak in terms of its origins, its motivations, and its future. ...If everything in the world can be accommodated in this bony view, then there is no justification to impose on our understanding the hypothetical extraneous. ...I maintain that all the softenings of my absolutely barren view of the foundations of this wonderful, extraordinary, and delightful world are sentimental wishful thinking. ...I long for immortality, but I know that my only hope of achieving it is through science and medicine, not through sentiment and its subsets, art and theology.¹⁰

In addition, if we are the product of a random series of material events, then we must also wonder if we have any freedom to act in a meaningful way. If everything is governed by laws which are ultimately random, our actions cannot be intentional and are, therefore, utterly meaningless.

It is a wonder that such reasoning has not led

Atkins to a life of despair about his own existence. However, Atkins takes some solace in his ability to understand nature. For Atkins, science is omniscient and eventually will come to an explanation of everything. Science is, for him, the “summit of knowledge”¹¹ and will give humans knowledge of everything. In other words, in Atkins world, we will become the omniscient gods of the universe and then die and cease to exist.

On the other hand, we can also consider the implications of a designer hypothesis. If that hypothesis is true, an ultimate reference point to the universe exists, and “meaning” takes on a genuine significance. We do need to wonder what this designer is like and what our relationship to him might be. With a reference point, our existence is important, and good and evil mean something real. Obviously, Wiker and Witt take this stance.

Still, both Weinberg¹² and Atkins¹³ acknowledge that the most basic of human-made theories will not be able to comprehensively explain the details of life, consciousness, beauty, or

the weather. This is already evident at the level of the atom. Quantum mechanics is a mathematical model, based on physical laws, that is used to describe and explain the nature of the atom. However, the mathematics are impossible to solve exactly, except in the most simple of chemical systems, the hydrogen atom. That is, chemists find it necessary to invoke uniquely chemical concepts such as electronegativity and molecular geometry into the quantum mechanical model in order to simplify the features of more complex systems, including all compounds. Thus, in one sense, chemistry is not reducible to simple physical laws. What Weinberg and Atkins do argue is that the models provide a mechanism, even if we cannot precisely calculate the outcomes. If we extend this notion to the concept of life, it is likely that we will again be faced with an approximation. Even if the entire machinery of the cell is little more than biochemical molecules and reactions, it is unlikely that chemical models alone could be constructed with sufficient detail to explain every detail of the cell's function. This does leave the ardent materialist with a conundrum. In this worldview, the universe is a closed system, governed by simple physical laws. However, the human intellect will never be able to infer the universe from this single law because the consequences of the law quickly become far too complex to use directly. Our minds and the tools available to us are unable to fully grasp the universe. In fact, if we did grasp every detail in the universe, we would necessarily become a god. What Weinberg and Atkins believe, then, is that even though the human mind will be able to understand the laws themselves and thus be able to infer mechanism and order from these basic laws, these inferences will not be particularly useful or satisfying to people as a whole. We will still continue to use models and concepts from the levels of reality we are immediately dealing with to understand nature.

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As their book progresses, Wiker and Witt continue to emphasize the meaning and genius evident in the structure of nature. In a further discussion of chemistry, they elaborate on the depth and clarity of the periodic table, noting how this depth and clarity enable students to master the table's organization in a series of increasingly detailed steps. They also provide a detailed discussion of the nature and properties of water, with a particular emphasis on the unique characteristics of water that make it particularly suitable for the existence of life on Earth, observing that this suitability illustrates the full meaning of water. The remaining chapters consider the nature of life itself. Unfortunately, here Wiker and Witt drift away from a detailed interpretation of the fundamental properties of organisms, concluding that the complexity of the cell is inexplicable in pure physical terms, given the incredible amount of structure and information present. In the end, they appeal to the "commonsense" conclusion that life is real, based more on a linguistic analysis than an appeal to basic science.

By the end, they shift from a positive argument for design, such as the genius of the periodic table or the careful design of the physical constants of the universe, to a more negative stance with the claim that biological life is inexplicable in chemical terms. Throughout this discussion, they not only point out gaps in knowledge that suggest a level of order that cannot be explained in reductionist terms, but also describe the depth, clarity, harmony, and elegance of these phenomena. Even though these arguments are refreshing reading for the Christian, who too often forgets about the meaning and purpose of the universe (which is to glorify God), they will not sway the materialist because the arguments presuppose an open universe, which the materialist categorically denies.

Furthermore, Wiker and Witt's conclusion does not stand. They correlate the materialists' philosophical assumptions with the four-element theory of Aristotle and the phlogiston theory, and they conclude that because science showed these theories to be wrong, reductionist materialism should also be rejected as wrong, given the amount of evidence in support of order, meaning, and genius in nature. However, they fail to read history correctly on this point. Yes, those theories

of nature were rejected, but they were rejected because they made explicit statements about the structure of nature that were testable; in other words, they were rejected by the normal process of scientific elimination through experimentation. In fact, reductionist materialism has generally been a very fruitful method of approaching science, and it still appears to be quite useful. It is also a fundamental principle, an assumption about the nature of science. As an assumption, rather than a hypothesis or theory, it is not directly tested or considered testable. Scientists take for granted the notion that nature can be understood; they do not attempt to test this assumption.

Unfortunately, a pervasive problem in Wiker and Witt's book is the tendency to belittle and caricature the reductionist materialist. Too often their claims are rejected as unreasonable or illogical. This tendency, which is the outcome of failing to confront the assumptions that materialists hold, results from a confrontation model rather than a conversation model of discussion.

The leap that reductionists take is their conclusion that materialism is a sufficient

explanation for all phenomena. They reason that if they have a physical explanation that is sound, or predicts other phenomena, it is complete, and they know all they need to know. They don't need to see it as "masterfully arranged and elegant"—this is not a useful or predictive category.

Unfortunately, a pervasive problem in Wiker and Witt's book is the tendency to belittle and caricature the reductionist materialist. Too often their claims are rejected as unreasonable or illogical. This tendency, which is the outcome of failing to confront the assumptions that materialists hold, results from a confrontation model rather than a conversation model of discussion.¹⁴

This discussion is important, however, because it is a metaphysical discussion, not one working within the bounds of science itself. The materialist works from the assumption that the universe is closed, while the theist works from the assumption that the universe is open. Both are able to use the data of nature, and the theories that explain that data, to argue for their position.

It is unfortunate, then, that Wiker and Witt choose not to address the metaphysical underpinnings of reductionist materialism. They do touch on it in the last chapter. First, they note that materialists are "blinded by their many successes in using the mechanistic analogy to explain natural phenomena" (246). In this they are quite correct, but they somewhat miss the underlying cause. They continue: "[s]uch blindness is actually a form of the most ancient of sins, pride" (246). Pride comes from the deeper sin of believing one does not need a creator. Materialists are blinded by their own assumption that the universe is closed. With this assumption firmly entrenched in their minds, it is impossible for them to see beyond the material. They are blind to design, not because of their pride but because of their closed minds.

Wiker and Witt close by suggesting that the loss of meaning is a more basic problem than the problem of evil. "Evil is parasitic on good" they rightly say (251). However, the sin that is at the root of evil has infected all aspects of creation, therefore corrupting our understanding of meaning. Nature suffers as a result of sin, so our sin-laden hearts see a universe also stained by sin, thereby making it much more difficult to see meaning, genius, order, and purpose. That is, the evidence appears flawed, compromised, so that it

is not irrefutable but enables the sinful heart to conclude that the universe is nothing but matter and that nothing else matters.

Francis Schaeffer puts it this way:

Is it possible to have intellectual integrity while holding to the position of verbalized, propositional revelation? I would say the answer is this: It is not possible if you hold the presupposition of the uniformity of natural causes in a closed system. If you do, any idea of revelation becomes nonsense. It is not only that there are detailed problems in such a case, but that it becomes absolute nonsense if you really believe in the uniformity of natural causes in a closed system—namely, that everything is a machine....Propositional, verbalized revelation—knowledge that man has from God—is a totally unthinkable concept. This is because by definition everything is a machine, so naturally there is no knowledge from outside, from God....[I]f you are going to hold to the uniformity of natural causes in the closed system, against all the evidence (and I do insist it is against the evidence), then you will never, never be able to consider the other presupposition which was the basis for modern science in the first place: the uniformity of natural causes in a limited system, open to reordering by God and by man.¹⁵

Wiker and Witt discuss a wide array of evidence that the universe is not a closed system, both in terms of the genius that is man and the structure of the universe. In doing so, they will aid the knowledge and faith of the believer. They understand that faith can be built on sound evidence from the structure of creation. But this evidence will not be the antidote they hope because the flaw is not in nature itself but in the assumption of a closed universe, which, by definition, cannot interact with anything from the outside.

In the end, it comes down to a simple choice. Do you choose to believe the evidence that the universe has a designer, or do you choose to believe that it does not? If you choose the former, you have opened yourself to the idea that the universe is not

closed, that there is a God. It follows that you then have to consider who this God is and what your relationship to him might be. If you choose the latter, you have deduced that the universe is closed, and if it is closed, there is no meaning or purpose to existence; you are merely the accidental outcome of a long series of random events.

Endnotes

1. Peter W. Atkins, *Creation Revisited* (London: Penguin Books, 1992), 149.
2. Atkins, 155-156.
3. While Wiker and Witt do not explain their use of the hyphenated word, “meaning-full,” I infer that they use the hyphenated spelling for emphasis. Unfortunately, this usage did not appear in the book’s title.
4. Peter W. Atkins, “The Limitless Power of Science” in *Nature’s Imagination: The Frontiers of Scientific Vision*, ed. John Cornwall (Oxford:Oxford University Press, 1995), 127.
5. Atkins, “The Limitless Power of Science,” 128-129.
6. Atkins, “The Limitless Power of Science,” 132.
7. Steven Weinberg, “Living in the Multiverse” (2005). Retrieved Jan. 6, 2010, from <http://arxiv.org/abs/hep-th/0511037>
8. Ibid.
9. Ibid.
10. Atkins, “The Limitless Power of Science,” 130-131.
11. Atkins, “The Limitless Power of Science,” 123.
12. Steven Weinberg “A Designer Universe?” (1999). Retrieved Jan. 1, 2010 from http://www.physlink.com/Education/essay_weinberg.cfm
13. Atkins, “The Limitless Power of Science,” 130.
14. It is also the case that the atheist treats the religious assumptions of theists with contempt; see for example references 4 and 11.
15. Francis A. Schaeffer, *He is There and He is Not Silent*, in *The Francis A. Schaeffer Trilogy* (Westchester: Crossway Books, 1990), 322-323.