Letters

The Grand Design's Unintended Arguments for the Existence of God

Let me add to the book review of *The Grand Design* by Stephen Hawking and Leonard Mlodinow (*PSCF* 63, no. 2 [2011]: 132–3). The book actually provides strong positive evidence in support of the existence of God. In chapter 7 entitled "The Apparent Miracle," the authors make the following assertions:

> Most of the fundamental constants in our theories appear fine-tuned in the sense that if they were altered by only modest amounts, the universe would be qualitatively different, and in most cases unsuited for the development of life. (p. 160)
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> The laws of nature form a system that is extremely fine-tuned, and very little in physical law can be altered without destroying the possibility of the development of life as we know it. Were it not for a series of startling coincidences in the precise details of physical law, it seems, humans and similar life-forms would never have come into being. (p. 161)
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> The universe and its laws appear to have a design that both is tailor-made to support us, and if we are to exist, leaves little room for alteration. (p. 162)
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> [For example,] if protons were 0.2% heavier they would decay into neutrons, destabilizing atoms. (p. 160)

These facts are examples of what is sometimes called an anthropic principle.

Hawking and Mlodinow then assert, "Many people would like us to use these coincidences as evidence for the work of God" (p. 163). I myself am one of those many people, since it seems like the most reasonable conclusion to draw from these facts. Indeed, Hawking and Mlodinow should be thanked for providing us with such a clear and concise exposition of this presently available scientific evidence in support of the existence of God.

There is also a logical inconsistency in Hawking and Mlodinow's argumentation. Near the beginning of the first chapter, they propose a "model-dependent realism" theory of what they claim is the best characterization of reality that is available for us. They assert,

> But there may be different ways in which one could model the same physical situation, with each employing different fundamental elements and concepts. If two such physical theories or models accurately predict the same events, one cannot be said to be more real than the other; rather, we are free to use whichever model is more convenient. (p. 7)

They then apply this approach to general explanations of the universe. For example, a typical physicist model (TP-model) of the universe would encompass all of the known and experimentally verified laws and theories of physics such as the laws of thermodynamics and electromagnetism, the theories of relativity and quantum mechanics, and the standard model of elementary particle interactions. Hawking and Mlodinow would doubtless agree with the wisdom of adapting this TP-model.

Let us go one step further and consider two somewhat enhanced TP-models which accept all verified laws and theories of physics, but which add a judgment about the existence of God. Consider an atheistic (ATP-)model of physical reality which denies the reality of a god, and a deistical (DTP-)model which affirms God as the Creator. Since belief in God has no effect on the outcome of an experiment in physics, both models agree equally well with observation, and one is therefore at liberty "to use whichever model is more convenient." According to "model-dependent realism," any one of these three models is just as appropriate for use, and just as well "conforms to reality." This means that the argumentation against the existence of God found throughout their book is, in reality, a denial of the central postulate of "model-dependent realism." To be logically self-consistent, Hawking and Mlodinow are obliged to accept the TP-, ATP-, and DTP-models as equally authentic representations of reality. Their decision to espouse the ATP-model and repudiate the DTP-model is a flagrant rejection of the central claim of "model-dependent realism."

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It Is Time for Advocates of Evolutionary Origins of Information to Use a More Balanced Approach

I have read with interest the three articles published in the December 2011 issue of *PSCF* on biological information, and the evolutionary origins of genetic information. All three authors have taken special care to demonstrate that complex systems such as living cells need not involve an intelligent source. Those arguments, however, leave me with an uneasy feeling as a Christian who is committed to upholding truth claims that can be learned from God's two books: nature and scripture. The reasons for my concern are as follows:

1. Whether done consciously or unconsciously, there *seems to be a tendency* to give special homage to Darwinian evolution at the *expense* of biblical insights. It seems as if the book of nature is primary and scripture is secondary. This is particularly apparent in Freeland's article, where he describes the evolutionary origin of genetic information with great erudition, but ends his treatise with what seems like a *perfunctory* allusion to "a loving creator God." No effort is made to show in what ways God expresses himself in his creation, other than by the author himself *choosing* to believe that he does. There is no way for me to distinguish such a position from what can be called "functional deism."

2. In my encounter with college youth, I have found most of them to be *unable* to distinguish between methodological naturalism and ontological naturalism. As most atheists and agnostics do, they confuse the mechanical/scientific theory approach of Darwinian or neo-Darwinian evolution with its comprehensive worldview implications. Thus, Dawkins's notorious statement that *"Darwin made the world safe for atheism"* is gaining foothold everywhere. No wonder so many young people end up losing their fragile faith in

Christian truth claims. Should we not, as ASA members, be more careful in emphasizing this point to the younger generation, and uphold in higher esteem the wonders of the Creator's work as seen in living systems, rather than in what Darwin claims?

3. I have been an applied physicist and a research engineer all my life. In my discussions with nonbelievers, I can question *any and all theories* in the physical sciences, whether it is the second law of thermodynamics or Einstein's theories of relativity, but if I raise a question regarding the problems inherent in the theory (dogma?) of macroevolution, I am quickly dismissed as an ignoramus. What seems ironic is that both the second law and the laws of general relativity have been *demonstrated to be accurate* to 10+ decimal places, and yet the problem of biogenesis, which is the very starting point of Darwinian evolution, has evaded all explanations for over 150 years.

4. Do we, as ASA members who adhere to our Statement of Faith, have a responsibility to be more careful in mediating grace to our ID members instead of belittling their valiant efforts to integrate the Creator more directly into his creation? At present, we face virulent and persistent attacks from neo-atheists (I would rather call them *miso-theists)* such as Dawkins, Harris, Hitchens, Dennett, and Stenger. To this we should add the increasing hostility, both subtle and open, exhibited by academe toward any and all practicing Christians, no matter what their professional credentials are. In fact, *I have yet to see an ontological naturalist take seriously the best BioLogos position, in spite of how well argued the effort might be.*

Again, should not we, as members of ASA, help strengthen the faith of our younger colleagues in the face of relentless opposition from academe, by uncritically defending a theory that is the *sine qua non* of the nonbeliever? I wonder if it is time to have a more balanced approach to how God weaves in his creation the *supernatural with the natural in a seamless manner, without gaps,* which *he* has done throughout history, an observation that is cogently argued by C. S. Lewis in his book *Miracles.*

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Biological Information and Carbon

In "Information, Intelligence, and the Origins of Life," (*PSCF* 63, no. 4 [2011]: 219–30), Randy Isaac wrote, "Without a clear understanding of all possible historical paths, no credible probability of occurrence can be determined,"[1] and "… probabilities and improbabilities cannot be reliably assessed unless all historical pathways and processes are well understood."[2] These statements exemplify fiat science, for which no supporting data are needed. They trump all scientific data, logic, and sound reason. Because they cannot be falsified, they are scientifically meaningless but very dangerous.

Isaac does not consider that biological information is inextricably linked to carbon. Only carbon-based information units explore sequence space, and the information is not prescient. Carbon is the ink of life, and it is finite. The upper 35 kilometers of Earth's crust contains about 10^{46} carbon atoms. For any given number of carbon atoms, enzymes are more information dense than DNA or RNA. The 10^{46} carbon atoms can assemble into fewer than 10^{43} units of information composed of 400 amino acid residues.

Each family of proteins has a unique protein-folding motif containing amino acids, which are specific in type and sequence. A selector cannot select for an enzyme until it is functional, and an enzyme is not functional until each specific amino acid is properly sequenced. The rules of probability are in play during their initial sequencing, because they have no history. The protein-folding motif of an average-sized family of proteins contains between 54 and 108 amino acids that are specific. The probability of their proper sequencing would range between 1 chance in 10^{70} and 1 chance in 10^{140} per try for L-isomer biological amino acids that are independent and identically distributed. So, are carbon-based information units potent in the exploration of this sequence space?

If each of the 10^{43} units of information were to alter its structure, and therefore its information, once per second for 3 billion years, fewer than 10^{60} unique units of information would have been existent. These units fall short in the exploration of the sequence space for one average-sized, protein-folding motif by a factor ranging between 10^{10} and 10^{80}.

The primordial soup contained a mixed bag of amino acids including nonbiological amino acids and D- and L-isomers. Sparking experiments produce nine biological amino acids but add 26 nonbiological amino acids to the mix. Meteorites transport 60 nonbiological amino acids to the mix. Eleven biological amino acids are not produced in sparking experiments or transported to Earth by meteorites and are "rare." If 10% of the amino acid residuals are glycine, the probability that an average-sized, carbon-based information unit would be composed of only L-isomers is about 1 chance in 2^{360} or less than 1 chance in 10^{108} per try. The integrity of the information contained within such units would be highly corrupted through the addition of nonbiological amino acids and D-isomers and through the infrequent insertion of "rare" biological amino acids. Several might escape corruption, but the probability is that these few would be written as gibberish. Unplanned carbon-based information is impotent in assembling the protein-folding motif of average-sized proteins.

The protein-folding motifs of 500 average-sized or larger protein families have a total of far more than 27,000 amino acids specific in type and sequence.[3] The probability of their correct sequencing would be far less than 1 chance in $10^{35,000}$ per try. A single alteration would remove an entire protein family from existence. The carbon-based information units from 10^{500} universes would be inadequate to investigate this sequence space.[4] The unplanned origin of life and the unplanned assembly of the first cell are highly speculative scientific hypotheses masquerading as scientific theories. *Scientific American* labels them "mysteries."[5] They do not belong in a natural science curriculum.