Was Darwin Wrong? A Rebuttal to the November 2004 National Geographic Cover Story

Our authors examine arguments for evolution commonly brought out by evolutionists. They show these arguments are not as strong as they purport and in many instances make a stronger case for intelligent design. Every person, especially Christians, should be aware of the information presented in this article.

Over the last few decades more and more scientists from every field of discipline have voiced concerns with Darwinian evolution's ability to explain the origin and diversity of life on earth. However, you would not know that from reading a recent article in *National Geographic*. The cover of the November 2004 issue grabs the reader's attention with the question, "Was Darwin wrong?" To few people's surprise, upon turning to the first page of the article you see the boldfaced words, "NO. The evidence for Evolution is overwhelming." But how can this be when so many scientists are in disagreement? Is it possible that the five lines of evidence presented in the article aren't as indisputable as the reader is led to believe? What if each one of these evidences for evolution is fatally flawed? What would evolution have left to stand upon? It is my opinion, as well as many others', that this is indeed the case. Let us critically evaluate each of these five lines of evidence (embryology, biogeography, morphology, paleontology, and bacterial resistance to antibiotics) and see what, if anything, we can conclude from them.

Embryology

First let's examine the so-called evidence from embryology, which Darwin himself considered to be "by far the strongest

single class of facts in favor of" his theory.{1} *National Geographic* asks the question, "Why does the embryo of a mammal pass through stages resembling stages of the embryo of a reptile?"{2}This, however, is a loaded question.

This line of evidence presented by *National Geographic* is known as Embryonic Recapitulation, or in other words, as the embryo develops it passes through stages that retrace its evolutionary past. This idea was originally developed in the mid 1800's by Ernst Haeckel, which he illustrated with drawings of embryos of various species. However, as Jonathan Wells points out in his book *Icons of Evolution*, this has been known to be false for over 100 years! Not only were Haeckel's drawings fraudulent but the late Stephen J. Gould called them "the most famous fakes in biology." Furthermore, embryologist Walter Garstang also stated in 1922 that the various stages of embryo development of different species "afford not the slightest evidence" of similarities with other species supposed to be their ancestors, stating that Haeckel's proposal is "demonstrably unsound."{3}In 1894 Adam Sedgwick wrote, "A species is distinct and distinguishable from its allies from the very earliest stages all through the development."{4}

So how is *National Geographic*'s question, "Why does the embryo of a mammal pass through stages resembling stages of the embryo of a reptile?" a loaded question? Because mammalian embryos never pass through such stages in the first place! Darwin's "strongest" evidence for evolution turns out to be no evidence at all.

Biogeography

Biogeography, as defined by *National Geographic*, "is the study of geographical distribution of living creatures—that is, which species inhabit which parts of the planet and why."{5} *National Geographic* asks, "Why should [such similar] species inhabit neighboring patches of habitat?"{6} Why are there

several different species of zebras found in Africa, or dozens of species of honey creepers in Hawaii, or thirteen species of finches in the Galapagos Islands? The answer given is that "similar species occur nearby in space because they have descended from common ancestors." There is nothing controversial about that. But I don't believe that this in anyway supports the kind of evolution that *National Geographic* is trying to promote. Allow me to explain by taking a closer look at the term "evolution."

There are two different kinds of "evolution" within the biological sciences. The first kind of evolution is *macroevolution*, or, big change over time. Macroevolution requires a vast amount of new genetic information and describes the kind of evolution required to make a man out of a microbe. It is this kind of evolution that is being propagated by *National Geographic*.

The second kind of evolution is *microevolution* which describes small changes or variations within a kind. For example, you may breed a pair of dogs and get another dog which is smaller than both its parents. You may then breed the new smaller dog and get an even smaller dog. However, there are limits to this kind of change.{7} No matter how often you repeat this procedure the dog will only get so small. It is also important to note that the offspring will always be a dog. You will never get a non-dog from a dog through this kind of change. Not to mention this kind of evolution tells us nothing about where the dog came from in the first place.

So what about *National Geographic*'s examples? They are all examples of microevolution. Why, for example, are there several species of zebras in Africa? Because they had a common ancestor that probably lived in Africa—a zebra. Or why are there thirteen species of finch on the Galapagos Islands? Because they are all descended from a single pair or group of finches. To use this kind of observation and try to explain where a zebra or finch came from in the first place goes

beyond the data and the scientific method, and enters into the realm of imagination.

Evolutionists are still puzzling over the connection between these two forms of evolution, macro and micro. Perhaps the puzzle remains because macroevolution is just wishful thinking.

Morphology

Morphology is a term referring to "a branch of biology that deals with the form and structure of animals and plants."{8} It is presented by *National Geographic* as having been labeled by Darwin the "'very soul of natural history." So what is this evidence from morphology that lends itself as "proof" for microbes-to-man evolution? Simply put, it is that similarities in shape and design between different species may indicate that those species have originated from a common ancestor by way of descent with modification. *National Geographic* gives a few examples such as the "five-digit skeletal structure of the vertebrate hand," and "the paired bones of our lower legs" which are also seen "in cats and bats and porpoises and lizards and turtles."{9}

Perhaps an easier to follow illustration concerning this is evolutionist Tim Berra's famous illustration which he used in his book *Evolution and the Myth of Creationism*. In it he states the following:

> *If you look at a 1953 Corvette and compare it to the latest model, only the most general resemblances are evident, but if you compare a 1953 and a 1954 Corvette, side by side, then a 1954 and a 1955 model, and so on, the descent with modification is overwhelmingly obvious. This is what paleontologists do with fossils, and the evidence is so solid and comprehensive that it cannot be denied by reasonable people [emphasis in original].{10}*

So why is this illustration famous? It's because Berra, although an evolutionist, unwittingly demonstrated why similar structures across different species is just as naturally attributed to intelligent design. For what do each of these various Corvette models have in common? They were all designed and manufactured by the same company, General Motors. In fact, the Corvette has many design features in common with other automobiles as well, such as four wheels, a gasoline engine, brakes, a steering wheel, etc. Why do most cars share these things, and many others things, in common? Because they are effective and efficient features designed for the proper operation of the vehicle. Maybe this is the same reason we find commonalities between many different kinds of plants and animals.

It must be granted that if evolution were true, then one would expect to see similarities between closely related species. However, as illustrated above, they could also be explained as the result of a common designer. So how can we tell which it is?

There are at least two ways. First, if similar structures did truly descend from a common ancestor, then those structures should have similar developmental pathways. In other words, they should develop in a similar manner while still in the embryonic stage. However, as early as the late 1800's scientists observed that this simply isn't the case. Embryologist Edmund Wilson in 1894 noted that structures which appear similar between adults of different species often differ greatly either in how they form or from where they form, or both.{11}

Secondly, if similar structures are the result of descent with modification, then you would expect the development of those structures to be governed by similar genes. Concerning this very point biologist Gavin de Beer said, "This is where the worst shock of all is encountered . . . the inheritance of homologous structures from a common ancestor . . . cannot be

ascribed to identity of genes."{12} In other words, different genes govern the development of similar structures which runs contrary to what evolution would predict.

It would appear then, that morphology, the "'very' soul of natural history," is more the "ghost" of natural history than supporting evidence for evolution. There are certainly many features of organisms resulting from a common ancestry, such as the beak of the Galapagos finches; but that doesn't mean that the beaks of all birds are also related by common ancestry. Perhaps applying the perspective of Intelligent Design can help clarify the difference.

Paleontology

Paleontology simply put is the study of the fossil record. So how does the fossil record support the "theory" of evolution? According to *National Geographic,* Darwin observed that species presumed to be related tend to be found in successive rock layers.{13} *National Geographic* asks if this is just coincidental. The answer provided, of course, is a firm no. Rather, they say, it is "because they are related through evolutionary descent."{14} Is this conclusion truly supported by scientific observation?

The biggest problem with identifying a gradual change from one species into another within the fossil record is that by and large no such gradual sequence of fossils exists! With the exception of a few disputed examples, such as the horse and whale, what truly stands out in the fossil record is sudden appearance. The late Stephen J. Gould, a world renowned evolutionist, noted concerning this, "The extreme rarity of transitional forms in the fossil record persists as the trade secret of paleontology. The evolutionary trees that adorn our textbooks have data only at the tips and nodes of their branches; the rest is inference, however reasonable, not the evidence of fossils."{15} This is *especially* true within the Cambrian rock layer, dated by evolutionists at over 500

million years old, where complex species appear for the first time with no sign of gradual development from simpler forms.

To illustrate this point, imagine, if you will, that you covered the entire state of Texas with playing cards. If someone were to then go for a walk across Texas and periodically pick up a card at random, what might they begin to think if all they ever picked up were 2s and aces, and never any of the cards in between? He might begin to wonder if those other cards were there at all.

This is precisely what we find within the Cambrian rock layer. We always find fully formed species, like finding just 2s and aces, and never any intermediates, like your 3s, 4s, and so on. In fact, *National Geographic* even acknowledges this problem when it compares the fossil record in general to a film with 999 out of every 1,000 frames missing.{16} It's more likely that there are few if any missing frames; rather those frames never existed in the first place.

Darwin himself, observing the lack of transitional forms within the fossil record, noted this problem to be "perhaps the most obvious and serious objection which can be urged against [his theory of evolution]."{17} Today, with nearly 150 years of advancements in the area of paleontology, the fossil record still fails to meet the expectation of Darwin's theory. This problem goes unaddressed by *National Geographic*.

Bacterial Resistance to Antibiotics

National Geographic derives a fifth line of evidence from more recent scientific data. They state, "These new forms of knowledge overlap one another seamlessly and intersect with the older forms, strengthening the whole edifice, contributing further to the certainty that Darwin was right."{18} Is this really the case? The most lauded of these "new forms of knowledge" is from the study of bacteria that acquire resistance to modern medicines. *National Geographic* states

that “there’s no better or more immediate evidence supporting the Darwinian theory than this process of forced transformation among our inimical germs.”{19}

These adaptations are in fact evidence for change over time, but not the kind that would change a microbe into a man. Rather, all examples of bacterial resistance are that of micro-evolution, i.e. change *within* a kind. For example, a staph infection is caused by a bacterium known as a *Staphylococcus* or “staph” for short. Whenever a staph bacterium acquires resistance to a particular antibiotic, it still remains a staph. It doesn’t change into a different kind of bacterium altogether. In fact, no matter how much it changes, it always remains a staph.

Secondly, when we take a closer look at how bacteria become resistant to a particular treatment, we find something very interesting. Just like in humans, information on how bacteria grow and survive is stored in the bacteria’s DNA. Therefore, if any change is to take place to turn an organism from one kind to another “more complex” kind, such as a microbe into a man, it must add new information to that organism’s DNA. However, that is not what we observe taking place in bacteria at all. New information is *never* created. Existing information may be modified, lost, or even exchanged between bacteria, but never created.

Thirdly, and perhaps most significantly, is that nothing which *National Geographic* presents even begins to explain where the information to make a bacterium came from in the first place. Rather, and to no surprise to the creationists, the study of bacterial resistance testifies to an intelligent Designer who created all living organisms with an ability to adapt to changing environments.

Conclusion

Modern science has indeed offered us great insight into the

complexities of life and the inner workings of all living things. Advances in population genetics, biochemistry, molecular biology, and the human genome will surely result in greater understanding of life on our planet. But unlike what *National Geographic* suggests, it is these advances which have served to convince an increasing number of scientists to abandon Darwin's theory as an explanation for the origin of life on earth. Rather, these advancements point to the necessity of intelligent design as an added tool in the toolbox.

Notes

1. Jonathan Wells, *Icons of Evolution* (Washington, DC: Regnery Pub., 2000), 82.
2. David Quammen, "Was Darwin Wrong?," *National Geographic* November, 2004: 13.
3. Wells, 88.
4. Ibid., 97.
5. Quammen, "Was Darwin Wrong?," 9.
6. Ibid., 12.
7. Lester, Lane P., Raymond G. Bohlin, and V. Elving Anderson, *The Natural Limits to Biological Change* (Dallas: Probe Books : Distributed by Word Pub., 1989).
8. Merriam-Webster Inc., *Merriam-Webster's Collegiate Dictionary,* 10th ed. (Springfield, Mass: Merriam-Webster, 1996).
9. Quammen, "Was Darwin Wrong?," 13.
10. Tim Berra, *Evolution and the Myth of Creationism* (Stanford, Calif.: Stanford University Press, 1990), 117.
11. Edmund B. Wilson, "The Embryological Criterion of Homology," pp.101-124 in Biological Lectures Delivered at the Marine Biological Laboratory of Wood's Hole in the Summer Session of 1894 (Boston: Ginn & Company, 1895), p. 107.
12. Wells, *Icons of Evolution,* 73.
13. Quammen, "Was Darwin Wrong?," 12.
14. Ibid., 13.

15. Stephen J. Gould, “Evolution’s Erratic Pace,” *Natural History* 85(5).
16. Quammen, “Was Darwin Wrong?,” 25.
17. Charles Darwin, *On the Origin of Species by Means of Natural Selection* (New York, New York: The New American Library of World Literature, Inc., 1958), 287.
18. Quammen, “Was Darwin Wrong?,” 20.
19. Ibid., 21.

A Darwinian View of Life

Probe’s Dr. Ray Bohlin reviews Richard Dawkins’ anti-theistic book, A River Out of Eden: A Darwinian View of Life*, showing the holes in Dawkins’ arguments.*

A River of DNA

A River Out of Eden: A Darwinian View of Life by Richard Dawkins is the fourth in a series being published by Basic Books entitled “The Science Masters Series.” This series is said to be “a global publishing venture consisting of original science books written by leading scientists. “Purposing to “present cutting-edge ideas in a format that will enable a broad audience to attain scientific literacy,” this series is aimed at the non-specialist.

The first three releases were *The Last Three Minutes: Conjectures about the Ultimate End of the Universe* by Paul Davies, *The Origin of Humankind* by Richard Leakey, and *The Origin of the Universe* by John D. Barrow. These were followed by the contribution from Dawkins. A look at these books, and at future contributors like Daniel Dennett, Jared Diamond,

Stephen Jay Gould, Murray Gell-Mann, Lynn Margulis, and George C. Williams, makes the endeavor look less like a scientific literacy series and more like an indoctrination in philosophical naturalism.

The exposition of a Darwinian view of life by Dawkins in *River Out of Eden* certainly fits into the overt anti-theism category. His "River Out of Eden" is a river of DNA that is the true source of life and the one molecule that must be understood if life is to be understood.

This river of DNA originally flowed as one river (one species) which eventually branched into two, three, four, and eventually millions of rivers. Each river is distinct from the others and no longer exchanges water with the others, just as species are isolated reproductively from other species. This metaphor allows Dawkins to explain both the common ancestry of all life along with the necessity of gradualism in the evolutionary process.

Dawkins refers to this river of DNA as a digital river. That is, the information contained in the DNA river is completely analogous to the digital information of languages and computers.

Surprisingly, Dawkins gives away the store in this first chapter. In pressing home the digital analogy, Dawkins first uses probability to indicate that the code arose only once and that we are all, therefore, descended from a common ancestor:

> *The odds of arriving at the same 64:21 (64 codons: 21 amino acids) mapping twice by chance are less than one in a million million million million million. Yet the genetic code is in fact identical in all animals, plants and bacteria that have ever been looked at. All earthly living things are certainly descended from a single ancestor.(p. 12)*

So it is reasonable to use probability to indicate that the

code could not have arisen twice, but there is no discussion of the probability of the code arising by chance even once. A curious omission! If one tried to counter with such a question, Dawkins would predictably fall back on the assumption of naturalism that since we know only natural processes are available for the origin of anything, the genetic code must have somehow beaten the odds.

African Eve

Chapter 2 attempts to tell the story of the now famous "African Eve." African Eve embodies the idea that we are all descended from a single female, probably from Africa, about 200,000 to 100,000 years ago. This conclusion originates from sequence data of the DNA contained in mitochondria.

Mitochondria are tiny little powerhouses that produce energy in each and every cell of your body. Just as your body contains many organs that perform different functions, the cell contains many organelles that also perform specific functions. The mitochondrion is an organelle whose task is to produce energy molecules the cell can use to accomplish its tasks.

However, mitochondria are also the only organelle to contain their own DNA. Certain proteins necessary to the function of mitochondria are coded for by the mitochondrial DNA and not by the nuclear DNA like every other protein in the cell. One other unique aspect of mitochondria is their maternal inheritance. That is, all the mitochondria in your body are descended from the ones you initially inherited from your mother. The sperm injects only its DNA into the egg cell, not its mitochondria. Therefore, an analysis of mitochondrial DNA reveals maternal history only, uncluttered by the mixture of paternal DNA like nuclear DNA. That's why these studies only revealed an African Eve, though other recent studies claim to have followed DNA from the Y chromosome to indicate an ancient "Adam."

Now these scientists don’t actually think they have uncovered proof of a real Adam and Eve. They only use the names as metaphors. But this action does reveal a shift in some evolutionists minds that there is a single universal ancestor rather than a population of ancestors. This at least is closer to a biblical view rather than farther away.

Finally, Dawkins makes his case for the reliability of these molecular phylogenies in general. Here he glosses over weaknesses in the theory and actually misrepresents the data. On page 43 he says, “On the whole, the number of cytochrome c letter changes separating pairs of creatures is pretty much what we’d expect from previous ideas of the branching pattern of the evolutionary tree.” In other words, Dawkins thinks that the trees obtained from molecular sequences nearly matches the evolutionary trees we already had. Later on page 44, when speaking of all molecular phylogenies performed on various sequences, he says, “They all yield pretty much the same family tree which by the way, is rather good evidence, if evidence were needed, that the theory of evolution is true.”

Well, besides implying that evidence is not really needed to prove evolution, Dawkins stumbles in trying to display confidence in the molecular data. What exactly does “pretty much” mean anyway? Inherent in that statement are the numerous contradictions that don’t fit the predictions or the ambiguous holes in the general theory. But then, evidence isn’t really needed anyway is it?

While this chapter contained the usual degree of arrogance from Dawkins, particularly in his disdain for the original account of Adam and Eve, it was somewhat less compelling or persuasive than is his usual style. He hedged his bet frequently and simply waived his hand at controversy. Unfortunately, this may not be picked up by the unwary reader.

Scoffing at Design

In Chapter 3 Dawkins launches a full-scale assault on the argument from design. After presumably debunking arguments from the apparent design of mimicry (not perfect design, you know, just good enough), Dawkins states, “Never say, and never take seriously anybody who says, ‘I cannot believe so-and-so could have evolved by gradual selection.’ I have dubbed this fallacy ‘the Argument from Personal Incredulity.'”

To some degree I’m afraid that many creationists have given Dawkins and others an easy target. Such a statement, “I cannot believe…,” has been used many times by well-meaning creationists but is really not very defensible. It is not helpful to simply state that you can’t believe something; we must elaborate the reasons why. First, Dawkins levels the charge that much of what exists in nature is far from perfectly designed and is only good enough. This he claims is to be expected of natural selection rather than a designer. This is because a designer would design it right while natural selection has to bumble and fumble its way to a solution. To begin with, the lack of perfection in no way argues for or against a designer.

I have always marveled at some evolutionists who imply that if it isn’t perfect, then Nature did it. Just what is perfection? And how are we to be sure that our idea of a perfect design wasn’t rejected by the Creator because of some flaw we cannot perceive? It is a classic case of creating God in our own image.

The evolutionists are the ones guilty of erecting the straw man argument in this instance. In addition, Dawkins fully admits that these features work perfectly well for the task at hand. The Creator only commanded His creatures to be fruitful and multiply, not necessarily to be perfectly designed (humanly speaking) wonders. Romans 1:18-20 indicates that the evidence is sufficient if you investigate thoroughly.

Dawkins further closes off criticism by declaring that "there will be times when it is hard to think of what the gradual intermediates may have been. These will be challenges to our ingenuity, but if our ingenuity fails, so much the worse for our ingenuity." So if explanations fail us, the fault is not with the evolutionary process, just our limited thinking. How convenient that the evolutionary process is so unfalsifiable in this crucial area. But after all, he implies, this is science and intelligent design is not!

Dawkins concludes the chapter with a discussion on the evolution of the honeybee waggle dance. It is filled with probabilistic statements like "The suggestion is that…. Perhaps the dance is a kind of…. It is not difficult to imagine…. Nobody knows why this happens, but it does…. It probably provided the necessary…." Yet at the end, Dawkins proclaims,

> *We have found a plausible series of graded intermediates by which the modern bee dance could have been evolved from simpler beginnings. The story as I have told it…may not be the right one. But something a bit like it surely did happen.*

Again, "it happened" only because any other explanation has been disallowed by definition and not by the evidence.

God's Utility Function

Dawkins concludes his attack on design in his book *River Out of Eden,* with a more philosophical discussion in Chapter 4, God's Utility Function. He begins with a discussion of the ubiquitous presence of "cruelty" in nature, even mentioning Darwin's loss of faith in the face of this reality. Of course, his answer is that nature is neither cruel nor kind, but indifferent. That's just the way nature is.

But a curious admission ensues from his discussion. And that is, "We humans have purpose on the brain." Dawkins just drops

that in to help him put down his fellow man in his usual arrogant style. But I immediately asked myself, “Where does this ‘purpose on the brain’ stuff come from?”

The rest of nature certainly seems indifferent. Why is it that man, within an evolutionary worldview, has “purpose on the brain”? In his attempt to be cute, Dawkins has asked an important question: Why is man unique in this respect?

As Christians, we recognize God as a purposeful being; therefore if we are made in His image, we will also be purposeful beings. It is natural for us to ask “Why?” questions. No doubt if pressed, someone will dream up some selective or adaptive advantage for this trait. But this, as usual, would only be hindsight, based on the assumption of an evolutionary worldview. There would be no data to back it up.

At the chapter’s end Dawkins returns to his initial topic. “So long as DNA is passed on, it does not matter who or what gets hurt in the process…. But Nature is neither kind nor unkind…. Nature is not interested one way or another in suffering, unless it affects the survival of DNA.” Even Dawkins admits that this is not a recipe for happiness. The problem of evil returns. Dawkins’s simple answer is that there is no problem of evil. Nature just is.

He recounts a story from the British papers of a school bus crash with numerous fatalities and reports a Catholic priest’s inadequate response to the inevitable “Why” question. The priest indicates that we really don’t know why God would allow such things but that these events at least confirm that we live in a world of real values: real positive and negative. “If the universe were just electrons, there would be no problem of evil or suffering.” Dawkins retorts that meaningless tragedies like this are just what we expect from a universe of just electrons and selfish genes.

However, it is also what we expect in a fallen world.

Evolutionary writers never recognize this clear biblical theme. This is not the way God intended His world to be. What is unexpected in an evolutionary world are people shaped by uncaring natural selection who care about evil and suffering at all. Why are we not as indifferent as natural selection?

In making his point, Dawkins says that the amount of suffering in the natural world is beyond all "decent" contemplation. Where does decency come from? He calls the bus crash a "terrible" story. Why is this so terrible if it is truly meaningless? Clearly, Dawkins cannot live within the boundaries of his own worldview. We see purpose and we fret over suffering and evil because we are created in the image of a God who has the same characteristics. There are aspects of our humanity that are not explainable by mutation and natural selection. Dawkins must try to explain it, however, because his naturalistic worldview leaves him no choice.

Are We Alone?

Dawkins closes his book with a final chapter on the origin of life and a discussion on the possibilities of life elsewhere in the universe. This chapter is a bit of a disappointment because there is really very little to say. To be sure, it is filled with the usual Dawkins arrogance and leaps of naturalistic logic, but there is no real conclusion just the possibility of contacting whatever other life may be out there.

Dawkins begins with a definition of life as a replication bomb. Just as some stars eventually explode in supernovas, so some stars explode with information in the form of life that may eventually send radio messages or actual life forms out into space. Dawkins admits that ours is the only example of a replication bomb we know, so it is difficult to generalize as to the overall sequence of events that must follow from when life first appears to the sending of information out into space, but he does it anyway.

While we can clearly distinguish between random and intelligent radio messages, Dawkins is unable to even ask the question about the origin of the information-rich DNA code. I suppose his answer is contained on page 138 when he says, “We do not know exactly what the original critical event, the initiation of self-replication, looked like, but we can infer what kind of an event it must have been. It began as a chemical event.”

This inference is drawn not from chemical, geological, or biological data, because the real data contradicts such a notion. Dawkins takes a few pages to evoke wonder from the reader by documenting the difficult barriers that had to be crossed. His conclusion that it was a chemical event is rather an implication that is derived from his naturalistic worldview. It is a chemical event because that is all that is allowed. Creation is excluded by definition, not by evidence. While chemical evolution may be difficult, we are assured that it happened!

The book closes with a discussion of the Ten Thresholds that must be crossed for a civilization of our type to exist. Along the way, Dawkins continues to overreach the evidence and make assumptions based on naturalism without the slightest thought that his scenario may be false or at least very wide of the mark.

All along the way Dawkins tries to amaze us with both the necessity and complexity of each threshold but fails miserably to explain how each jump is to be accomplished. He depends totally on the explanatory power of natural selection to accomplish whatever transition is needed. It is just a matter of time.

But, of course, this begs the question. Dawkins perfects this art for 161 pages. Despite the smoke and mirrors, Richard Dawkins is still trying to sail upstream without a paddle. It just won’t work. While many of his explanations and

ruminations should make careful reading for creationists (he is not stupid and writes well), I have tried to point out a few of his inconsistencies, assumptions, and poor logic.

What bothers me most is that this is meant to be a popular book. His wit and dogmatism will convince and influence many. For these reasons I found it a frustrating and sometimes maddening book to read. Unfortunately, few will think their way through these pages and ask tough questions of the author along the way. This is where the real danger lies. We must not only show others where he is wrong but help them how to discover these errors on their own. We must help people to think, not just react.