

A Detailed List of the Errors I Found While Reading *Undeniable*

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p.8: Nye says, "When we go seeking life elsewhere, the whole idea of what to look for, and where to look for it, will be guided by our understanding of evolution." That's not even close to true. It will be guided by our understandings of biochemistry, metabolism, genetics, etc. An evolutionist and creationist would look in exactly the same places for extraterrestrial life.

p. 8: Nye repeats something he has said before: "proving that there is life on another world would surely change this one." However, that's not clear at all. Not long ago, I asked my reader what they thought of this kind of statement (<http://blog.drwile.com/?p=12996>), and all who responded said it wouldn't change much of anything.

p. 10: Nye says that the central idea of creationism is "...that the first book of *The Bible's* assertion that Earth is only six or ten thousand years old (the exact number depends on the interpretation) is supported by scientific evidence." Actually the book of Genesis makes no such assertion anywhere. That is a result of interpretation. Other interpretations say that the earth is as old as Bill Nye thinks it is. In fact, some interpretations would allow the earth to be much, much older than what Nye believes.

p. 10: Nye says, "Inherent in this rejection of evolution is the idea that your curiosity about the world is misplaced and your common sense is wrong." In fact, common sense leads to a rejection of evolution, since common sense says that when things appear to be designed, they are the result of a designer's actions. Now, of course, science often goes against common sense, so that doesn't mean evolution is wrong because it goes against common sense. It just means Bill Nye is wrong in his evaluation of creationists. In addition, it is my curiosity about the world that led me to be a creationist. Had I not studied science, I would have stayed with my atheism. Curiosity about the world led me to be a creationist. This is true of many other creation scientists.

p. 10: Of kids who are brought up on creationism, Nye says, "Not only that, these kids will never feel the joy of discovery that science brings." That is demonstrably false. I have several students who took my courses and are now scientists. They are feeling the joy of discovery that science brings, and many of them attribute their desire to become scientists to my creationist textbooks!

p. 11: When talking about the "Biblical myth" of the Flood, he says, "By the way, neither *The Bible* nor Mr. Ham offers any insight into the fate of every surface-dwelling plant during this supposed episode." Of course, both do just that. The Bible (no italics needed) tells us that a dove brought an olive leaf back to Noah as the Floodwaters receded, indicating that plants were once again growing on the earth. In addition, several creation scientists, including those in Ken Ham's organization, have given scientific descriptions of how plants were able to grow back after the Flood (<https://answersingenesis.org/the-flood/how-did-plants-survive-the-flood/> and <http://creation.com/how-did-fish-and-plants-survive-the-genesis-flood>)

p. 12: Nye repeats the false claim he made in his debate with Ken Ham. He says, "There is no place, not one single example, of a fossil from one layer trying to swim its way up to a more recent deposit. If there were a great flood and every living thing was drowning all at once, we would expect one of them somewhere to be caught trying to save its life. There is not one instance of this happening in any stratum anywhere on Earth. If you find one, you will turn science on its head. You will be famous. Believe me, people are looking." In fact, there are all sorts of examples of misplaced fossils. Some

appear too early in the fossil record, some appear too late (<http://blog.drwile.com/?p=12162>). Generally, there are elaborate stories created to explain around each one so as to preserve the evolutionary narrative. This is an example of how ignorant Nye is of the science. To not be knowledgeable of the many, many examples of misplaced fossils indicates that he hasn't actually looked into the science of evolution very carefully.

p. 13: Nye says, "Did you know that there are bristlecone pine trees in the western United States that are significantly older than 6,000 years?" This is false. The oldest bristlecone pine is tree-ring dated at less than 5,000 years old (<http://www.pbs.org/wgbh/nova/methuselah/long.html>), which is precisely what one would predict from the Biblical account of a worldwide Flood. It is precisely not what one would expect from an evolutionary perspective.

p. 13: Nye mentions Old Tjikko, a tree from Sweden that is 9,550 years old. He then writes, "For cryin' out loud Mr. Ham, what sort of weird world do you live in? If a tree is 9,000 years old, the Earth is not 6,000, etc." However, he fails to let the unsuspecting reader know that the tree is not dated using tree rings, which is a relatively reliable dating method. Instead, it is dated using carbon dating. Well, using the same logic, I could say, "There are several dinosaur bones that are 22 to 39 thousand years old. For cryin' out loud, Mr. Nye, what sort of weird world do you live in? If a dinosaur bone is 39 thousand years old, then the dinosaurs couldn't have died out 65 million years ago, etc." Ham rejects carbon dating when it comes to that tree, and Nye thinks that says he is living in some weird kind of world. However, Nye rejects the carbon dating of many dinosaur bones (<http://blog.drwile.com/?p=8842>), but somehow, that's okay. This is the unscientific way that Nye seems to think!

p. 13: Nye once again repeats the terribly wrong argument he gave in his debate with Ken Ham. He says that in order to produce all the species we see today from the ark, there would need to be 11 new species produced every day from the end of the Flood until today. This, of course, is nonsense. He claims there are 16 million species now (an overestimate, to be sure), and that there were only 4,000 kinds of animals on the ark. What he fails to tell the unsuspecting reader is that his inflated number of 16 million includes all the microorganisms (which would not need to be on the ark), aquatic species (which would not have been on the ark), and all the insects (which have the most species of any order). The insects were not on the ark, as they are not the category of animal that the Bible says was on the ark. They survived by floating on mats of vegetation. Thus, there isn't anywhere close to 16 million species whose ancestors needed to be saved on the ark. The more scientific number (something Nye doesn't want his readers to know) would be the number of species of land vertebrates. Currently, there are about 33,000 named land vertebrate species. Over about 4,500 years, then, several thousand kinds would need to diversify into about 33,000 species. This is quite reasonable, especially given the rapidity with which microevolution can occur. The most absurd thing is at the end of this clearly false argument, he says, "It's a multiplication and division problem. Not difficult, but very difficult to refute." Actually, anyone with a passing knowledge of the creation/evolution issue can easily refute it.

p. 16: Regarding his debate with Ken Ham, he said, "For his part, Ham avoided responding to any of these issues and repeated that he had "a book," and his interpretation of said book supersedes anything we can observe in nature." There are two falsehoods in this statement. First, Ham did respond to these issues. He was only given two minutes, but in those two minutes, he brought up a young fossil found encased in rock that was supposed to be much, much older. He also discussed a scientific prediction that the creationist model made, which turned out to be true. Nye ignored them, because he doesn't seem to want to be informed on the actual issues surrounding evolution. Second, Ham never claimed

that what we read in the Bible supersedes what we observe in nature. He said that whether or not you believe the Bible affects how you interpret what you observe in nature.

p. 18: Concerning creationists, Nye writes, “They throw aside their common sense and cling to the hope that there’s something that makes it okay to *not* think for themselves.” Of course, as I have already pointed out, listening to common sense leads to rejecting evolution. Also, Nye is the one who does not want people to think for themselves. If he did, he would welcome the creation/evolution debate, because the creationists are thinking for themselves instead of blindly accepting what the High Priests of Science say. Nye wants to stop all debate on evolution. He doesn’t want any students to be taught about anything other than evolution, because that would mean those students might actually think for themselves, and that seems to terrify Bill Nye.

p. 21: This is one of Nye’s more blatant errors. He writes, “The Second Law [of Thermodynamics] applies only to closed systems, like a cylinder in a car engine, and the Earth is not even remotely a closed system.” Both of these statements are utterly false, and someone who is an engineer should know that. Let’s start with the obvious one. A cylinder in a car engine is not even remotely a closed system, as Nye contends. It dissipates heat into its surroundings. It also transfers mechanical energy to the engine. The fact that it can send energy to its surroundings tells us that it is anything but a closed system! The other falsehood is more incredible. Anyone who knows anything about the Second Law of Thermodynamics knows that it applies to open systems as well. Water can freeze specifically because it is an open system. As a result, when it freezes, it can release energy into its environment. This is the very definition of an open system, but guess what determines the freezing point of water. The Second Law! Thus, the Second Law does apply to open systems. Now please understand that Nye’s main point is that the Second Law doesn’t forbid evolution. Despite the fact that he doesn’t understand the Second Law, he is correct on that point. What he fails to tell the unsuspecting reader is that the Second Law puts a constraint on evolution. If a mutation occurs that lowers the entropy of an organism’s DNA, an immediate, corresponding increase in the entropy of the organism’s surroundings must occur. Only then can evolution be consistent with the Second Law. So far, no rigorous mechanism exists to explain how this is possible.

p. 29: Nye tries to make the distinction between evolution and randomness by invoking natural selection. On that point, he is correct. Neo-Darwinism relies on random mutations, but they are then filtered by natural selection, which causes the result to be not-so-random. However, natural selection can only operate on *living systems*. Until life exists, the processes that produce it must be completely random, unless someone can come up with a filtering mechanism that works on non-living things. As a result, when writing about a tornado going through a junkyard, he writes, “What are the chances, they [creationists] ask, that you’d end up with a perfectly assembled, operational airplane? Obviously zero, because it would be random.” However, until a living thing exists, these processes are random. So he is basically admitting that there is no way for life to spring from non-life, even though in a later chapter (35), he makes a pathetic attempt at discussing how that might have happened.

p. 38: Here, Nye discusses Kelvin’s attempt to determine the age of the earth. Everyone agrees Kelvin was wrong. Nye writes, “His calculations were perfect, but his understanding was not.” That’s exactly right. The problem is that Nye can’t even consider the possibility that this is true of today’s scientists who believe the earth is 4.6 billion years old. Their calculations are perfect, but their understanding of radioactivity is wrong. Specifically, they want to believe that radioactive half-lives can never change, when in fact, we know that they can (<http://blog.drwile.com/?p=297> and <http://blog.drwile.com/?p=2477> and <http://blog.drwile.com/?p=11312>).

p. 42: Here Nye shows us that he doesn't understand the term "uniformitarianism." He claims, "Uniformitarianism denotes the idea that the world is uniform, or consistent with one set of natural laws; it connotes another idea that the natural laws we deduce today are the same natural laws that applied eons and millennia ago. It's quite a departure from what Hutton's contemporaries believed (and what creationists today still do)." Most importantly, his definition of uniformitarianism is wrong. As anyone even remotely familiar with evolution knows, uniformitarianism is the assumption that the same processes we see acting today produced what we now see in nature. (<http://www.merriam-webster.com/dictionary/uniformitarianism>) So, for example, we see sediment slowly settling out of the water and forming layers on the bottom of that body of water. Uniformitarianism says that this is how the majority of rocks we see today formed – by the slow buildup (and then hardening) of sediment. This is why uniformitarianism is usually described as "the present is the key to the past." (<http://www.amnh.org/exhibitions/permanent-exhibitions/rose-center-for-earth-and-space/david-s.-and-ruth-l.-gottesman-hall-of-planet-earth/how-do-we-read-the-rocks/the-present-is-the-key-to-the-past>) Second, all of Hutton's contemporaries, and creationists today, readily agree with the idea that the natural laws we see today apply to the past. This notion, which was born out of Christianity (<http://blog.drwile.com/?p=5527> and <http://blog.drwile.com/?p=4893> and <http://blog.drwile.com/?p=11533>), was what made Medieval Europe the birthplace of modern science. This is also why creationists today invoke the natural laws we have discovered to explain Flood Geology, genetics, and all the other issues surrounding the creation/evolution controversy.

p. 46: For someone who champions Darwin, Nye doesn't seem to know much about his work. For example, he writes, "Darwin's book is amazing. *On the Origin of Species by Means of Natural Selection* – that's the full title – includes dozens of diligent observations and experiments that Darwin personally conducted." That's not anywhere close to the full title. It is *On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*.

p. 55: This is one of many theological statements Nye makes in his book. When discussing giraffe necks, he writes, "Configuring necks this way is almost certainly not how a designer or engineer would build the world." How would he know? The giraffe neck does its job incredibly well. It seems to me that this indicates it is the way a designer would make it.

pp. 72-73: This discussion is one of the many examples of the fact that Nye hasn't bothered to inform himself about the creationist position. He takes great pains to indicate that all breeds of dogs have descended from a common ancestor, and that common ancestor was some sort of wolf. All creationists agree with that, because the mechanisms by which such microevolution occurs are well understood.

p. 74: He writes, "It is interesting to note that people who believe in creationism, who hold that a deity set up all the ecosystems in just a few days, benefit in every way from our ability to breed better or more useful plants and animals. To get around this obvious contradiction they often resort to elaborate and arbitrary distinctions between what they do and do not call evolution." There are at least three things wrong with this statement. First, no creationist of whom I am aware thinks that God set up all the ecosystems in just a few days. God set up the original creation's ecosystems, but they are long gone. Today's ecosystems developed from the organisms that survived the Flood, and it took much longer than a few days. Second, he seems to be connecting evolution with our ability to breed better or more useful plants. However, this is what led famous geneticist Dr. John Sanford to realize evolution doesn't work. He tried to use macroevolutionary principles to make better crops, and they failed miserably. He is now a creationist specifically because he saw that macroevolution doesn't work to produce better

crops (<http://www.uncommondescent.com/intelligent-design/john-sanford-mutations-produced-no-meaningful-crop-improvement/> . Finally, he claims that the distinction creationists make between microevolution and macroevolution is “elaborate and arbitrary.” However, it is very precise. In microevolution, organisms evolve with the information that is already contained in their genome. In macroevolution, the organisms develop novel information that was not previously in their genome. This is a very clear distinction, and it is based on our current understanding of genetics.

p. 78: On this page, he asks all sorts of questions and says that the only possible creationist responses are “Well, that’s the way he did it” or “Well, that was all part of the plan.” This once again shows that he hasn’t bothered to inform himself on this issue, as creationists have answers to all these questions, and none of them are the ones Nye suggests. For example, he asks “If there was a designer, why did he or she or it create all those fossils of things that aren’t living anymore.” God didn’t create those fossils. They are mostly the fossilized remains of things that died in the Flood, but some come from animals that died before the Flood, and some come from animals that died after the Flood. However, God didn’t make the fossils. The fossils were made by catastrophic burial. Another question he asks is, “Why did a designer program in this continual change we observe in the fossil record?” Once again, the fossil record is mostly made up of animals caught in the Flood. Thus, it is not a record of change. It is a record of the variety of animals that existed at the time of the Flood. Also, the Designer programmed His creation with the ability to adapt to change, because that would ensure His creation’s survival, no matter what changes occurred. He also asks, “Why did the designer put all these chemical substitutions of radioactive elements in with nonradioactive elements?” He did that to ensure that the core of the earth stays molten. In order to have life on this planet, you need a magnetic field. That magnetic field depends on a molten core. The heat from radioactivity keeps the outer core molten, ensuring a magnetic field. It also powers plate tectonics, which is one way the nutrients of earth get recycled. Had Nye bothered to inform himself on the topic, he would know there are very solid, scientific answers to such questions. Also, as a quick aside, radioactivity has *nothing* to do with “chemical substitutions.” As all freshman chemistry students are taught, chemistry deals with the exchange or sharing of electrons. Radioactivity, on the other hand, has to do with the number of protons and neutrons in the nucleus.

p. 85: He writes, “If the world and all its species of animals and plants were created at once by some supernatural force or event, we might expect nothing but the fossils of familiar, living species as we dig down in Earth’s crust. Or if there was a before-and-after transition, as is described in *The Bible*, we might expect a great many fossils of now-extinct species in lower layers or strata of rocky formations, then a sudden break (corresponding to the end of Eden, or perhaps Noah’s flood), followed by only modern species in more recent strata.” This, once again, shows he has not bothered to inform himself on the issues. No creationist would expect this. The majority of the fossil record comes from the Flood, and it demonstrates the diversity that built up from the time of creation until the Flood. Flood geologists explain the positioning of fossils in the fossil record by a combination of ecosystem capture, hydrodynamic sorting, initial distribution, and escape. What Nye says one would expect is not expected by a single creationist, and he would know that had he informed himself on the issue.

p. 87: For someone who relies so much on radioactive dating, Nye doesn’t seem to understand radiation. He writes, “Nuclear fission of natural radioactive elements like uranium and thorium keeps the insides of planets molten.” Nuclear fission and natural radioactivity are completely different things. In nuclear fission, a large nucleus splits into two smaller ones. In radioactivity, a nucleus that is not necessarily large (indeed, there is even a radioactive form of hydrogen) emits a particle in order to change its identity or energy. Natural radioactivity is responsible for keeping the core and mantle hot,

not nuclear fission. No one who understands the basics of nuclear processes would link the two as Nye does.

p. 88: When discussing fossilization, Nye says, "Then it has to sit there for years and years and years, generally millions of years, while minerals slowly trickle through and turn once-living structures to stone." Had Nye spent some time learning about fossilization, he would have seen many examples of fossils that formed very quickly, not over millions of years (<http://www.icr.org/article/5893/265> and <http://creationrevolution.com/do-rocks-and-fossils-take-a-long-time-to-form/>)

p. 100: Nye writes, "Creationists, in particular, often talk about the Cambrian Explosion as if it happened in an instant. This, for me, is another example of extraordinary ignorance or very limited critical thinking." As Nye's book demonstrates, he seems to be the one who is ignorant of some very basic issues, including what creationists actually believe. I don't know of a single creationist who thinks the Cambrian Explosion happened in an instant. Instead, creationists think that the Cambrian Explosion is the result of some of the first animal ecosystems being buried by the Flood. Thus, the fossils that make up the Cambrian Explosion are from the animals that were produced by the microevolution that took place from creation to the Flood.

p. 112: Since Nye is committed to believing the scientific consensus, regardless of what the data tell us, he is also big on global warming hype. He shows this by writing, "But humans are pouring carbon dioxide into Earth's atmosphere right now at an alarming rate, shoving our climate in that high-carbon direction, which is a terrifying prospect. We do not want to become even a little like Venus." Of course, there is no way the earth could become even a little like Venus, because there are all sorts of negative feedback mechanisms built into the earth to keep that from happening. Unfortunately, Nye hasn't bothered to inform himself on those negative feedback mechanisms or the latest research related to global warming (<http://blog.drwile.com/?cat=12>). He repeats this catastrophic nonsense on the next page as well.

pp. 114-115: On these pages, Nye discusses the out-of-vogue idea that mammals caused the extinction of the dinosaurs. He then discusses what paleontologists currently think. Just as was the case with Kelvin, he seems to miss the fact that modern scientists could also be wrong about what caused the extinction of the dinosaurs.

p. 122: After discussing punctuated equilibrium as a way of explaining around the fact that the fossil record is nearly devoid of transitional forms, Nye writes, "The results explain why evolution appears both fast and slow: It *is* both fast and slow." Indeed, it is too slow to see macroevolution happening in a lifetime, and it is too fast for macroevolution to be preserved in the fossil record. What a perfect way to avoid any need for evidence!

p. 122: He then writes of punctuated equilibrium, "The significance is profound in the context of all that came before in evolutionary thinking, and with the distraction of creationists trying to teach science students kooky ideas about the natural history of Earth even today." Actually, had it not been for creationists continually pointing out the lack of transitional forms, it's not clear that punctuated equilibrium would exist as a theory. Its main goal is to explain around the lack of transitional forms, which is one of the main things creationists discuss.

p. 128: He writes, "With the twentieth-century 'modern synthesis,' it became clear that every feature of an individual is expressed in her, his, or its genes." There are at least three things wrong with this

statement. First, the 'modern synthesis' refers to neo-Darwinism, which has nothing to do with our advances in genetics. Indeed, our modern understanding of genetics has made neo-Darwinism harder and harder to believe. Second, it is utterly false to say that all of an organism's features are in its genes. In fact, lots of features depend on factors other than genes. Fingerprints, for example, are different in identical twins, even though they have identical DNA. That's because environmental effects shape your fingerprints. In this very book, Nye discusses epigenetics, which is the study of all sorts of features that are not determined by genes. However, he seems to be utterly ignorant of that here. Finally, your genes make up only a small fraction of your genome. Thanks to ENCODE we know that the vast majority of the genome is used (<http://blog.drwile.com/?p=8594>). Thus, there is a lot more to your genetic makeup than just your genes.

p. 139: Nye has a lot of difficulty differentiating between microevolution and macroevolution. This is apparent in many parts of the book, including this one. Here, he discusses how mosquitoes in the London underground tubes have diverged from the ones above ground to the point where they are almost a new species. He then says, "Evolutionary biologists see an important lesson here. Because of mutations, populations diverge genetically as time goes on. We can infer that if we went back far enough, we would find a common ancestor for every living thing on Earth. That is one of Darwin's great insights. That is also the small message of the London mosquitoes, writ large." The problem, of course, is that from a genetic point of view, it is very easy to understand the process that allows one population of mosquitoes to diverge and become a new species of mosquito. However, the genetics behind common ancestry as Nye discusses it here is much more difficult to understand. We know that evolutionary lineages built on DNA don't agree with evolutionary lineages built on fossils, and neither of those agree with evolutionary lineages built on biomolecules (<http://blog.drwile.com/?p=1008>). Also, the mechanisms required to produce new creatures via mutation and natural selection are a mystery. Nevertheless, Nye seems to think that because mosquitoes can vary a bit, then all of life can be constructed from one common ancestor. That is a breathtaking leap of faith that is contradicted by a lot of what we know scientifically.

pp. 143-144 He writes, "Perhaps one of the most important insights is that humans are extremely uniform genetically. We are just emerging from our own genetic bottleneck." He doesn't mention to the unsuspecting reader that creationists predicted this long before genetics demonstrated it. He claims that creationism makes no predictions. Ham demonstrated this is false in the debate, but Nye refused to accept the evidence. Well, here is yet another creationist prediction that has been confirmed, as creationists have always maintained that humans were constrained by a genetic bottleneck when all of humanity except Noah's family was killed in the Flood.

p. 149: Nye writes: "This business of homology is one of the absolutely most compelling indicators of the process of evolution. Just by looking at our bones, you can tell that we *must* have something in common with bats and birds, and even pterosaurs, the flying reptiles that lived at the same time as the dinosaurs." Had he bothered to inform himself on this issue, he would have known that creationists say something very similar: "This business of homology is one of the absolutely most compelling indicators of the process of creation. Just by looking at our bones, you can tell that we *must* have something in common with bats and birds, and even pterosaurs, the flying reptiles that lived at the same time as the dinosaurs. The thing we have in common, of course, is the Designer who made us all." Both statements are in 100% agreement with the facts. In addition, the creationist statement shows that there is no reason to resort to *ad hoc* distinctions between homologous structures and analogous structures, which is a big part of this chapter. When it comes to similar structures in different organisms, evolutionists cannot just look at the evidence. Instead, they have to look at the evidence and force it to fit their

hypothesis. Thus, if the hypothesis of evolution can accommodate similar structures as being homologous, they are homologous. If the hypothesis of evolution cannot accommodate that, they are analogous structures. Creationists can look at the evidence and make the obvious conclusion that similar structures result from the work of a common Designer (<http://blog.drwile.com/?p=631> and <http://blog.drwile.com/?p=4108> and <http://blog.drwile.com/?p=7222>).

p. 161: In the chapter where this page is found, Nye claims he will answer the question, “What good is half a wing?” Creationists point out (correctly) that for natural selection to preserve something, it must provide an advantage. It is hard to understand the advantage of half-formed structures, so it is very hard to understand how macroevolution could produce complex structures like wings. He then spends time talking about *Archaeopteryx* and how many paleontologists think it wasn’t a strong flyer. He also talks about what some consider to be protofeathers on dinosaurs. Of course, those probably aren’t protofeathers (<http://blog.drwile.com/?p=10925> and <http://blog.drwile.com/?p=8076> and <http://blog.drwile.com/?p=9531>), but that’s not important. After discussing these things, he writes, “However you cut it, *Archaeopteryx* basically had half a wing. *Velociraptor* had something more like one quarter of a wing, or one eighth of a wing.” This, of course, is nonsense. Even if *Archaeopteryx* was a poor flyer (and there are conflicting data on this point), he had a complete wing. Even if *Velociraptor* had protofeathers, he had no wing at all. Just arms and legs. This is incredibly dishonest. Feathers aren’t even one-eighth of a wing. They are *found on* wings. Protofeathers, if they existed at all, are not a partial wing. They are something that grows from the skin.

p. 163: Nye writes, “That is how Neil Shubin managed to find the remarkable *Tiktaalik*, a fish with transitional features between fins and legs. In the context of our current discussion, you might say *Tiktaalik* had half-limbs.” First, *Tiktaalik* does not have transitional features between fins and legs. It has fins that are not in any way transitional (http://www.evolutionnews.org/2010/09/evolutionary_biologists_are_un038261.html and http://www.evolutionnews.org/2008/07/tiktaalik_roseae_wheres_the_wr008921.html). Second, it did not have half of anything. It had complete fins and no limbs.

p. 163: He says that the discovery of *Tiktaalik* is a perfect example of how evolutionists made a prediction about what kind of rock to look in to find a transitional fossil and then looked in that kind of rock and found one. What he fails to tell the unsuspecting reader is that based on what we now know, they were looking in the wrong rock! We now know that amphibian fossils are found in rock that is supposedly older than *Tiktaalik*. (http://www.evolutionnews.org/2010/01/tiktaalik_blow_n_out_of_the_wat030621.html) One evolutionist said that the discovery of amphibian fossils in rocks older than *Tiktaalik* lobbs a grenade on current ideas of tetrapod evolution. (<http://www.uncommondescent.com/intelligent-design/lobbing-a-grenade-into-the-tetrapod-evolution-picture/>)

p. 163: Nye once again writes, “Creationism, unlike science, can predict nothing.” Of course, this is false, and Nye knows it is false, because Ham gave him an example of a prediction that creationism made that has been confirmed by the data. Had he bothered to inform himself on the issue, he would know that there are plenty of examples of creationism making predictions that were later confirmed by the data (<http://blog.drwile.com/?p=82> and <http://blog.drwile.com/?p=2670> and <http://blog.drwile.com/?p=8412> and <http://blog.drwile.com/?p=297> and <http://blog.drwile.com/?p=254> and <http://blog.drwile.com/?p=6790> and <http://blog.drwile.com/?p=9969> and <http://blog.drwile.com/?p=328> and <https://answersingenesis.org/creation-science/successful-predictions-creation-scientists/>).)

p. 167: On this page, Nye once again shows that he hasn't bothered to inform himself on the issues related to the creation/evolution debate. He points out several examples of what he thinks are bad design, none of which are actually bad designs. For example, he writes, "Next time you look an octopus in the eye, respect her or him, because her or his eye is a better design than yours." He goes on to give the old, recycled argument that the design of the human eye is bad. In fact, current research shows it is precisely the design you need for maximum visual clarity (<http://blog.drwile.com/?p=1060> and <http://blog.drwile.com/?p=12798>). Of course, this is relatively new research (from 2010 and 2014), so you might think that Nye just isn't up to date on the literature. However, in other parts of the book, he discusses studies from late 2013. He simply doesn't seem to want to be informed about the issues he is discussing in his book.

p. 175: In the chapter that contains this page, Nye tries to explain why people don't believe in evolution. He writes, "There is a deep-seated reason why intelligent, sensible people suddenly recoil from objective evidence when the topic turns to evolution. I think the fear of death has a lot to do with it." Creationist can say something very similar: "There is a deep-seated reason why intelligent, sensible people suddenly recoil from objective evidence when the topic turns to evolution. I think the fear of the Creator's judgment has a lot to do with it." The fact is that there is objective evidence for and against evolution, and objective evidence for and against creation. Some people's preconceptions (like those of Nye) lead them to attach great value to what little evidence exists for evolution and ignore (or in the case of Nye, not bother to learn) the wealth of evidence for creation. Other people's preconceptions lead them to attach a great value to the large amount of evidence for creation and ignore the evidence for evolution. Others are more balanced, considering all the evidence. Even these balanced people end up landing on different sides of the debate. Nye can't accept that, however, because he believes in evolution with religious fervor. Thus, he simply isn't willing to admit that there is a legitimate debate.

p. 183: The chapter in which this page is found represents Nye's biggest failure in becoming informed about evolution. He seems to think there is no difference between microevolution and macroevolution, and that simply isn't true. For example, here's what he says about creationists: "They accept the micro but reject the macro, because micro is all their faith can accept. It's sad, and it's not science. The natural world is a package deal; you don't get to select which facts you like and which you don't. And in this case, you can't understand one kind of evolution without the other." There are so many things wrong with this statement! First, creationists accept microevolution not because of faith issues. It's because microevolution is well documented, and there are plausible mechanisms through which it happens. We reject macroevolution because the evidence stacks against it, and because it is utterly different from microevolution. Second, I could say a very similar thing about him. "Nye accepts the macro not because of the evidence, but because his atheist faith demands it. It's sad, and it's not science." He seems to be accusing creationists of rejecting the facts that they don't like, but Nye does exactly the same thing. He rejects the myriad of evidence that speaks against macroevolution. He also claims you can't understand microevolution without macroevolution, and that's nonsense. Microevolution and macroevolution are quite different. The former works with genetic information that already exists, while the latter creates new genetic information. This is an obvious distinction, and one that Nye misses over and over again.

p. 186: He once again shows he hasn't bothered to inform himself on the creation/evolution debate. He says creationists have, "...coined a nominally Hebrew-derived word *baramin* to describe 7,000 kinds of plants and animals that were supposed to be on a boat 4,000 years ago and have since developed (through microevolution....that somehow turned macro) into 16 million species." There are two huge

mistakes here. As I have already pointed out, water-dwelling animals, insects, microorganisms, and most plants weren't on the ark. Thus the ark-dwellers didn't have to produce anything close to 16 million species! Second, the entire thrust of barminology is to determine which organisms are related by microevolution and which are not. That allows us to determine the originally-created kinds. Thus, the microevolution that occurred after the Flood never "somehow turned macro." It was microevolution the entire time. Once again, for someone who champions evolutionary theory, he seems to know little about one of its fundamental distinctions!

p. 187: He says, "When you hear the terms *microevolution* and *macroevolution*, be attentive to who's using them." In other words, he wants you to ignore people who disagree with him. That's not something a real educator would ever tell his readers!

p. 187: Nye closes his chapter on microevolution and macroevolution with, "So please: Think big, and think critically." However, he has already told the reader to ignore creationists. That's not thinking critically. If you want to think critically, you have to understand the topic and the various views on the topic. When it comes to evolution, Nye seems to understand neither.

p. 188: He opens this chapter with the following: "If you believe public opinion polls, about half of the American public does not accept the proposition that life on Earth – including humans – is the product of billions of years of natural evolution. At the same time, these same people seem to accept everything else that scientific discoveries and diligent engineering bring us." This is a common refrain for Nye. He wants you to believe in evolution because it is "science," and since "science" gives us all sorts of wonderful things, we should turn our minds off and simply accept what the High Priests of Science say when it comes to origins. The fact is that people enjoy the things that scientific discovery brings them because those things have been thoroughly tested, and we know the science behind them is valid. The problem is that macroevolution has not even begun to be tested, and most of what we currently know about science tells us that it can't work.

p. 192: Nye brings up a Michael Faraday quote: "Nothing is too wonderful to be true, if it be consistent with the laws of nature." However, Nye doesn't really believe that quote, because he refuses to believe in a Creator, like Michael Faraday did.

p. 194: He writes, "We can use hormones from other animals – like insulin derived from pigs – to treat people because we came to understand common ancestry." First, insulin from pigs hasn't been used since 1983, so Nye has once again not informed himself on something he is discussing. In addition, back then, insulin from cattle was also used. However, common ancestry is not why we chose to use insulin from pigs and cattle. If common ancestry were the key, we would have used insulin from primates. We used insulin from pigs and cattle because it acts the same as insulin in humans, and pigs and cattle are a fairly inexpensive. This has nothing to do with common ancestry. It is simply biochemistry. Since 1983, insulin has been produced synthetically. At no time did evolution play a role in insulin use or production.

p. 194: In trying to claim that macroevolution has produced medical advances, Nye writes, "Medical researchers create new vaccines every summer to anticipate the evolved, mutated flu virus that will make the rounds in autumn." This is true, but once again, it has nothing to do with macroevolution. Microevolution explains it all, so medical researchers produce the same results whether they are creationists or evolutionists.

p. 207: He writes, "A tremendous number of bacteria that were once quite controllable are now troublesome at best, deadly at worst. Evolution is enabling them to bite back, and that's bad for us." This is true, but Nye fails to inform the unsuspecting reader that this is not macroevolution. Bacteria gain resistance to antibiotics in two ways: using genes that existed long, long before antibiotics were introduced (<http://blog.drwile.com/?p=5958> and or by mutations that degrade structures which already exist (<http://blog.drwile.com/?p=6716>). Neither of these processes relate to macroevolution.

pp. 209-223: In these two chapters (27 and 28), Nye tries to explain altruism from an evolutionary perspective. Not surprisingly, he fails. He tries to derive a simple equation to explain altruistic behavior:

$$b > c/r$$

where "b" is the benefit to the organism performing altruism "c" is the cost, and "r" is the relatedness of the organism for which the generous act is being done. The more related the organisms in question are, the larger "r" is. So, for example, an animal might put itself in harm's way to save another animal in the same pack, because they are related. Since they are related, the animal instinctively knows that the relative will help it survive, and if nothing else, some part of its genes will survive in the relative. If these benefits outweigh the cost divided by the relatedness, then evolution says it is in the best interest of the animal to do the generous act. As a result, altruism can be explained by evolution. However, as Nye admits, the equation doesn't work. Many people, for example, will risk their lives to save a baby that is not at all related to them. For unrelated organisms, $r=0$, which means c/r is infinite, which means the benefit cannot outweigh the cost. Nye also fails to inform the unsuspecting reader that it's much worse than that. Animals have been known to save the lives of animals that aren't even from the same species. Dolphins, for example, have saved drowning humans (<http://www.dolphins-world.com/dolphins-rescuing-humans/>). There is no supposed evolutionary benefit, but it happens anyway, in complete defiance of evolution.

p. 221: In discussing the equation that doesn't work, Nye says, "The fraction on the right-hand side never goes to zero: You, as a human, will tend to save the kid even if he or she is completely unrelated." Once again, Nye has not bothered to inform himself about this equation. The more distantly related the organisms are, the *smaller* r gets. Thus, for the scenario of a person risking his life for an unrelated baby, r is very near (if not equal to) zero. When r is that small, the fraction on the right-hand side doesn't approach zero. It approaches *infinity*! Nye, then, doesn't even understand the equation.

p. 226: While discussing peacocks, he writes, "From a sexual selection standpoint, the big brightly-colored tail is understandable. The males display the tail to attract attention from peahens." Once again, Nye has clearly not bothered to inform himself on this issue, as current research says that peahens do not pay much attention to a peacock's tail (<http://www.sciencedirect.com/science/article/pii/S0003347207005301>).

pp. 229-230: When discussing crop loss, he writes, "In the 1990s diligent biologists addressed the problem in an evolution-based dramatic new way. Researchers developed ways to extract genes from one species and insert them into the genetic code of another..." However, this has nothing to do with evolution. In fact, the geneticist who developed one of the first reliable methods of doing this is a creationist, Dr. John Sanford (<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC280417/>). In addition, Sanford did try an evolutionary approach to solving the problem of crop loss, and in his book *Genetic Entropy and the Mystery of the Genome*, he calls the evolution-based approach "...an enormous failure." (p. 25)

p. 233: Here Nye does what he accuses creationist of doing. He writes, "Genetically engineering food is controversial, as it should be. If you're asking me, we should stop introducing genes from one species into another, while at the same time taking full advantage of our ability to understand the genome of any organism – plant, animal, or fungus – in order to produce the healthiest, most sustainable food system possible." But that's rejecting science! Throughout the book he tells creationists that they just have to accept what scientists tell them, but Nye is saying in the particular case of gene transfer, we shouldn't do that! He makes a similar statement on p. 235.

p. 282: He writes, "Every other aspect of life that was once attributed to divine intent is now elegantly and completely explained in the context of evolutionary science. For me, there is no reason to think that the origin of life is any different." Really? Every other aspect of life? In fact, in his own book, he admits that the equation he derives (and doesn't understand) for altruism doesn't work. Thus, his own book tells us altruism is not explained via evolution. In addition, he should read Dr. Thomas Nagel's book, *Mind and Cosmos: Why the Materialist Neo-Darwinian Conception of Nature Is Almost Certainly False*. Despite the fact that Dr Nagel is an atheist, he admits that human consciousness has no explanation in evolutionary theory. Instant mutualism cannot be explained by evolution (<http://blog.drwile.com/?p=12781>). The fact that DNA, fossils, and biomolecules cannot agree on evolutionary lineages cannot be explained by evolutionary theory (<http://blog.drwile.com/?p=1008>). In fact, there is little that *can* be explained by evolutionary theory.

p. 282: He writes, "I am open minded, and have no problem with most religions, but religious explanations are unsatisfactory." Nye is anything but open-minded. He couldn't even open his mind enough to learn what creationists actually think. He also can't open his mind to the vast gulf that exists between microevolution and macroevolution. He can't even open his mind enough to learn the details of evolutionary theory.