

Darwigin *of* Species



*A critique of Ray Comfort's creationist
introduction to Darwin's Origin of Species*

Introduction to my Introduction of Comfort's Introduction

In 1859, Charles Darwin originally published *Origin of Species*. The year is now 2009, so by the not-as-of-yet disputed rules of mathematics, the book is now 150 years old. Coincidentally, this year also marks Darwin's 200th birthday. There is much fanfare celebrating both the man and his book, and many books, lectures, and Darwinpalooza concerts are commemorating the event.

I have written this article to address one specific commemoration of book and man, a special edition of *Origin* published by Bridge-Logos.¹ You may have heard about this edition - it is the one that has been promoted on YouTube by ex-sitcom actor Kirk Cameron² If you have seen the video, then you will know that this edition contains a 50 page creationist introduction, written by Ray Comfort of Living Waters ministries, and that the ministry plans to give away 100,000+ copies on the campuses of America's top universities. (If you haven't seen the video, it features a very grave and serious-looking Cameron straddling a backwards chair. He tallies "God-given rights" that are being stripped away as the Christians are being attacked by shadowy forces. It was very scary. I think there may have also been lightning.) The ministry hopes that college students will be hooked by the introduction (it is over 10% pictures - what college student can resist that?) and learn all of the facts about Darwinism that the shadowy panel of science illuminati have been trying to suppress.

My article is an introduction to their introduction, and I intend to debunk their debunkery.³ Like Comfort's introduction, mine is being freely distributed. This text is available for download, so if you spot people distributing the Comfort edition on your campus and wish to offer the counter arguments, please feel free to print this out and satisfy your intent to distribute. You may wish to re-format the text to fit your media, but I do ask to please not change the content.

Please - I also ask that you don't block or discourage the folks handing out the Comfort books. The students at your campus

¹ Comfort, Ray. Introduction to *Origin of Species*. Alachua: Bridge-Logos 2009

² < <http://www.youtube.com/watch?v=GN9zpf5cT0M>>

³ Since Comfort's attempt is to debunk the original *Origin*, which, in turn, was written to debunk Creationist notions, readers should prepare themselves for more recursive debunkery than one can safely be exposed to. You may wish to consult your physician before proceeding.

have the right to learn about all of the creationist objections to Darwin's theories, poke holes in them, and then discard them - just like scientists have done for the past 150 years. But you should respect Ray Comfort for his right to distribute these ideas. And you should respect Kirk Cameron as well, because he is one of the few American celebrities that has not succumbed to the ravages of Scientology.

My introduction to the Comfort introduction is in three parts: The first part addresses Charles Darwin himself, and it contains never-before-published-let-alone-even-uttered-by-decent-members-of-society revelations that are so shocking, you will be absolutely spell-bound and unable to put this paper down. (So it's best to pause here and brew a nice pot of tea before you become enthralled. It's almost tea-time, and if you try to put the kettle on the middle of your enthrallment, you risk getting a nasty burn. Seriously - part 1 is that enthralling, and I bear no liability for consequences. Make tea now.)

The second part is a step-by-step, blow-for-blow debunkage of Comfort's introduction. While not as enthralling as the first part, it will be very convincing. With a bit of editorial sprucing up, it may even work its way up to also being somewhat enchanting.

The last part will contain various verbal flotsam and jetsam that did not fit neatly into the first two chapters. It may contain, but will not be limited to, more global discussions on Intelligent Design, Religion, Cameron's acting career, and the like. As this part will be done way at the end of my writing, and as I am only currently working on the beginning parts now, I have not the foggiest idea what I will be finishing up with. Most likely, it shall all be thrown together the night before publication during a manic, caffeine-soaked jag of stream-of-consciousness blather session. As such, I expect that the final section will be utter crap, and not worth reading at all.

That's about it. Happy distributing, reading, and thinking.

Chapter 1: Origin of Darwin

Charles Robert Tiberius Darwin⁴ was born in 1809, flitted around a bit in school, took a boat ride around South

⁴ Editor's Note: Darwin's middle name was not Tiberius. The author apologizes for the error. If he had copied Dr. Stan Guffey's biography of Darwin, as Ray Comfort did in his introduction to OOS, this mistake would not have been made. (http://eeb.bio.utk.edu/darwin/images/Handout_History_Darwin.pdf)

Darwigin of Species

America, then went back home to England and worked out his theory of natural selection. This bare-bones biography represents most of the knowledge that the general public possesses.⁵ But there is a darker truth to the Darwin story - an astounding truth, an unbelievable truth, and a never before revealed truth. Stand back - I'm about to reveal it:

Darwin was a deep-cover agent for a vast underground Creationist conspiracy. It's true - this gentleman naturalist, barnacle fancier, and family man had been secretly aligned with the Creationist Christian Takfiri for most of his life, and he faithfully carried out their bidding. Does this sound crazy? Weren't Darwin's theories the anathema to all that is holy? I assure you that it is not and that it makes perfect sense. To understand how, first consider the conditions in the time that Darwin lived.

Dogmatic religion started taking a beating in the 1600s, and by Darwin's Victorian era, it was under a full-blown smackdown. Never before in the history of the church had so many people started questioning literalist doctrines. What caused this piledriver to piety? Coffee.

Before coffee, the only things that were safe to drink in Europe were distilled beverages. (Boiling water had not yet been invented) Beer and wine were served with breakfast, lunch, and dinner. In medieval Spanish culture, they were also served with fourthmeal. The whole of Western society spent the dark ages drunk off of their keisters. This changed when the Ottoman Empire tried expanding into Eastern Europe. They got as far as the Battle of Vienna, where they introduced coffee to the locals. In return, they themselves were introduced to cheap Austrian wine. The Europeans immediately perked up and repelled the attack; the Ottomans immediately entered their 200 year stagnation and decline.

The next 50 years or so were almost known as the "Hangover Era" as Europe sobered up, but because Europe had a killer headache and didn't feel like talking about it, they silently slid right into The Age of Enlightenment. Soon, scholars were experiencing their first bouts of lucidity in 300 years. After flushing their bodies with gallons of coffee,⁶ their brains

⁵ American middle-school students also know the story of his untimely death, after being viciously attacked by wild Scopes monkeys.

⁶ Yes, I know. Tea was also introduced to Europe at about this time. But I didn't want to mention tea in the main body of the text. I was afraid that anyone who did not take my advice in the introduction and brew some up before becoming engrossed with this chapter might get the hankering for a cup now, and scald themselves while reading. The author would like you to know that he bears no responsibility for such injuries.

kicked in and they started asking difficult religious questions like

"Where did the sons of Adam and Eve find wives?", "Why did Jesus spend so much time with the fishermen? What about the masons?" and "Oh my God, where is the nearest bathroom?"

The learned men also started taking note of the scientific phenomena that had always surrounded them, but they had previously been too schnoekered to notice.⁷ Natural laws were discovered that conflicted with the church's official versions of how things worked. The church was still trying to get a handle on Copernican system, and gave a sad groan when it heard about more changes. Secretly, it wished that it hadn't given Aristotle all of those ringing endorsements, and had stayed out of this infernal science business altogether. But one can't change the past, so they stoically sat down with this new "science" business to figure out which bits were offensive enough to disbelieve. Thus began the next great rift between the church and the laboratory.

To make matters even worse, the Thirty Years War (1618-1648) had just ended, and it had left a horrible taste in everyone's mouth. (That's in addition to the one left by the Austrian wine) After it ended, people reflected on how they had come to be involved in one of the most destructive fights in European history. They couldn't remember exactly how it started, but they had hazy memories of this Catholic fellow and this Protestant fellow getting into an argument over a bit of religious some-such down at the local pub, and it just getting way out of hand. Parties that got sucked into the fray vowed to not let it happen again.

The combination of questioning biblical literalism, (re)discovery of science, frustration with religious conflict, and the desire to get a few more winks of sleep in on Sunday mornings spelled bad news for the major religions. By the 1700s, many had dabbled in agnosticism or atheism. Deism, the belief that some manner of God did exist, but all of the physical and natural laws held true, came into existence and immediately became popular. Thomas Jefferson, Thomas Paine, and Ethan Allen were Deists. Preachers responded to this exodus from the scriptural fortitude by becoming even more dogmatic and declaring there to be an ongoing crisis in faith. They devised a system to measure and report the threat level of this crisis, and although it had been designed to cover a whole spectrum of levels of threats to faith, the church elders seemed to never set it to anything but orange or yellow.

⁷ Johnson, Steven. *The Invention of Air*. Riverhead Hardcover 2009

Darwigin of Species

And if those church elders thought the 1700s were a crisis, the 1800s must've really knocked the stuffing out of them. Questioning and rejection of dogma were still on the rise, and religious tensions were heating up across the sea. America was descending into a deep division and fell into civil war shortly after the release of *Origin of Species*. While we remember that war to be chiefly over slaves and sovereignty, the Methodist, Baptist, and Presbyterian churches divided themselves up over these issues turning a secular battle into a theistic one.⁸ As historian James P. Moore Jr. put it, "The Civil War had become nothing less than a religious event in the minds of many Americans and in turn stood as a virtual laboratory in probing the depths of American Spirituality."⁹ One wonders if the people in Darwin's England watched the Christian infighting in America with the same incredulity and tsk-tsking that we've been applying to the Shia vs. Sunni conflict in the recent Iraqi war.

And the Enlightenment continued to enlighten. Scripture-conflicting scientific theories were building up. James Hutton and Charles Lyell's work showed the Earth to be orders of magnitude older than described in the Bible, giving ample time for erosion and sediments to build the world into its present form, and attacked the notion that our landscapes were set through a catastrophic flood. Bad news for Noah. Leagues of gentleman naturalists were identifying thousands of new species across the globe, which also pushed the question, "Exactly how big was that ark, sir?"

No doubt about it, the literalist Takfiri were in big trouble. Enough trouble to light a holy fire under the posterior of a certain young Bible-extremist. Enter Charles Darwin. Early in life, he took up the cause, vowing to slay those Enlightenment bastards by wielding that very same damnable science that they had wrought. He knew he had to do work quickly if he were to prevent scientists from learning everything and stealing away all of the people's reasons for following dogma.

Although deeply steeped in his own faith, Darwin proved willing to learn from other, lesser faiths. During his 4 year voyage on the *Beagle*, he had the fortune to meet all manners of intriguing heathens in South America. He also encountered other social moirés such as oppression, slavery, and general misery. Now being that Darwin was a brilliant observer,¹⁰ he couldn't help but notice how these oppressed

heathens clung to their quaint, mythological beliefs with the tenacity that a drowning, starving man uses to cling to an inflatable cheeseburger.

This was where the seeds for his plan were first sown. Darwin realized that while quarrels existed within Christianity, it wasn't exactly oppressed. It was the dominant religion in all of the properly civilized nations, and all of the important Christian cities had at least a decent, if not stellar, golf course. This level of comfort afforded people the freedom to think about how the rationalities of science and the brutalities of war flew in the face of literalist belief in the Bible.

Darwin stumbled upon a possible solution. All he needed to do was create a way to oppress the people who shared his strict and closed minded beliefs, then they would grab onto those beliefs with a death-grip. Being that Darwin was also a very nice fellow, he didn't wish to cause any actual suffering. So he had to find a means of oppression that wouldn't actually affect anyone's well-being one whit. As a *coup-de-gras*, he also needed to find an oppressive means that would cast scientists as the enemy.

The realm of biology was the easiest staging ground for Darwin to lay an assault. He had spent much of his youth studying theology and holy covert operations at Christ's College in Cambridge,¹¹ and while there, he spent ample time pursuing the field of natural history. In Victorian times, naturalism was viewed as a spiritual venture, and was greatly studied by the church as a means of forming bonds with divine creations. Darwin figured that with a little push here and there, he could use it to form a cult like environment. All he had to do was find an angle that would make people really hate science.

So Darwin got busy. While still sailing around South America, he started taking notes and mailing home all sorts of naturey looking things that he could "study" later. He had a good eye, and was able to grab some really good stuff. The boys back home were impressed with his stash, and much to Darwin's surprise, he achieved academic notoriety before he had finished his trip.

But academic notoriety plus one shilling wouldn't even buy Darwin a plate of black pudding, and he knew it. If he was going to get his message to the streets, he had to appeal to the masses. So he wrote a travel narrative about his voyage, and added in stories of wild-eyed natives, fearsome storms, swashbuckling pirates, damsels in distress, and the like. He also wrote a chapter about his touring the leper colonies of

⁸ Goen CC. *Broken Churches, Broken Nation*. Georgia: Macon University Press, 1985

⁹ James P. Moore Jr... *One Nation Under God*. Doubleday, 2005

¹⁰ Ref: Every damn book, article and paper written about Darwin.

¹¹ That's not the one in Massachusetts.

Darwigin of Species

South America on a motor-cycle, but wisely left it out, figuring that it would just make him sound crazy.

The book was a boffo hit. Charles Darwin was now a household name. Realizing his plan now had its foot in the door, Charles finished his first “scientific” notebook to start afresh in a second one. In it, he would put a brain dump of the craziest, wildest, most twisted things he could imagine, and see if he could squeak a theory out of any of it. He named this notebook “/b/”.

Nothing much came of it. But then one day, after drinking way too much coffee, he was flipping through the pages and stopped at his proposed ‘multiple leg theory’. It wasn’t one of his better ideas; the premise was that with enough motivation, man could grow more legs. Darwin’s eyes transfixed on the crude multiple-leg stick man he drew. “If instead of legs, what if a man could will himself to grow into a different species?” And then, “No, wait – what if some other species grew into a man? I think people might just buy that.” Over his illustration, Darwin then penned the words, “I think.”

Darwin expanded his theory to include monkeys so that he would be sure to offend people’s sensibilities. Then he prepared a draft, and was hot to publish. But he didn’t publish – he held off for years.

One of the most intriguing things about Darwin’s life was this period of delay before publishing. It would take him twenty two years after drawing his famous “tree of life (or legs)” to put *Origin of Species* on the market. Historians love to speculate on the reasons for the delay, and among the reasons offered were a fear of offending the public, his obsessive-compulsive need for completeness, his severe addiction to snuff, and his not wanting to offend his wife, Emma, who had deep Christian ultraconservative beliefs.

Actually, it was Emma’s fault. But not for the reasons everyone thinks. Darwin secretly shared Emma’s ultraconservative views, and believed the scriptures more literally than she. Their rift wasn’t about heresy, it was about facial hair. You see, if you wanted to peddle science, cigars, or cough drops in Victorian England, you had to sport a Beard of Great Acclaim (BOGA). Emma detested beards and refused to let Charles grow one. This was the cause of many fights in the Darwin household, and they always ended the same way: Emma would suggest that he put off the beard-growing and do some more research. Charles would acquiesce and delve into a different field.

This went on for years. As a result of what was perhaps their worst fight, Charles spent eight years researching barnacles. He also studied biogeology, taxonomy, embryology, and

morphology. When he was tinkering on experiments, the couple was very happy. When he contemplated whiskers, things got explosive.

Then, after 22 years, another man came very close to publishing on the same topic. This would have been disastrous for Darwin’s conspiracy, for this other man wouldn’t be concerned with churning up hatred and religious rifts. He would just be paying attention to the science. Being a man capable of great things, Darwin quickly produces one of the greatest books and one of the greatest beards science had ever seen. And this, my friends, is how the war between creationists and Darwin began.

Chapter 2: Origin of Comfort

After that brief introduction to the schisms and schemes of Charles Darwin, we are ready to move on to this writing’s main focus: A review of Ray Comfort’s introduction in his newly printed version of *Origin*¹² I respect Comfort’s right to teach his controversy, and hope the reader will consider both his and my arguments carefully. To make direct comparisons easier, I have borrowed Comfort’s section headings. This will avoid any controversy about which controversy we’re conversing about, as it will allow readers to match his arguments with mine. (His page numbers are in parentheses)

The DNA Code (page 9)

Comfort starts his first argument with a warning shot through the hull. He attacks a fairly standard metaphor about DNA, specifically quoting a description from a GlaxoSmithKline web page. On this page, Gene et. al. likens a DNA strand to a book written with words from a four letter alphabet. The four letters correspond to the four nucleotides that determine the code of the DNA. Comfort calls this a “gross understatement”, and states that the DNA in a cell would not be equivalent to one book, but to “1000 books of encyclopedia size”. He continues to bash Gene’s quote by referencing facts to prove the book-model’s inadequacy.

After this attack, GlaxoSmithKline removed not just this page, but all of Professor U. Gene’s “Kids Genetics” pages. Inquiries have revealed that Gene is also no longer employed at GSK. My defense of Gene may be too late, but the world should know that he did not make an understatement. Anyone that read his short DNA article in its entirety would have seen his expansion of the book example:

¹² Comfort, Ray. *Origin of Species – 150th Anniversary Edition*. Alachua: Bridge-Logos 2009

Darwigin of Species

*We have a huge amount of DNA in each of our cells. If the DNA from just one of your cells was typed in books, a list of the 3 billion base pairs would fill 200 telephone books.*¹³

Gene made no omissions in the article that he wrote for small children and illustrated with bright, colorful drawings. It was only selective editing that made Gene sound as if there was an understatement. Now, I have worked with Professor Gene personally, and have found him to be a competent and thoughtful cartoon person. I sincerely hope that Comfort's slander has nothing to do with his absence from GSK.¹⁴

But Comfort's main point here is that DNA is incredibly complex. He quotes another website^{15 16 17} saying that it would take a person typing 60 words per minute, eight hours a day, around 50 years to type the human genome. Comfort's point here is obvious: God is the most patient typist ever.

Okay, no. That's not his point. The point he's making is the cornerstone argument of Intelligent Design: DNA is incredibly complex. It is like complex times infinity, and it would boggle your mind to think of any way it could have come into being, *except* by the hand of some greater being. Some greater being that types way more than 60 words per minute.

Another internet-researched example is given to drive this point home. It gives a fabricated evolutionist's proof: given enough time, rain, wind, erosion, <sic> and pure chance, Mount Rushmore could naturally spring into existence. Obviously, no evolutionist says this. There would be no reason for either natural weather patterns or any culture's God to carve the heads of Washington, Jefferson, Roosevelt, and Lincoln into the side of a mountain. Now, the head of Ozzy Osbourne? Maybe. And definitely the head of James Brown if the deity was sufficiently funky. But no science or religion expects to see president's heads occurring naturally in geology.

¹³ Kids Genetics, GlaxoSmithKline
<www.genetics.gsk.com/kids/dna02htm>

¹⁴ Editor's note: GSK did not dismiss Professor Gene. He left on his own volition, citing intellectual differences and an inability to comply with the company's draconian anti-smoking policy.

¹⁵ "Genome Facts", Nova Online
<www.pbs.org/wgbh/nova/genomefacts.html>

¹⁶ About half of Comfort's scientific references come from the internet. But that's OK; most scientific publications these days get their information by surfing the web, rather than by checking original source material.

¹⁷ Not.

The argument goes that since some things that are really, really complex turn out to be designed by man, things that are really, really, really, really complex could only have been designed by a higher being. This theory has been around longer than the theory of natural design. The naturalist and theologian William Paley first posed it with the example of a watch, rather than gargantuan mountain-statues. In an attempt to prove a lack of God, scientist and atheist Richard Dawkins wrote a book which borrowed Paley's watch for his title: *The Blind Watchmaker*. This book, like many other publications on evolution, disproves intelligent design by describing logical mechanisms that could create complex mechanisms. Intelligent design is completely dependent on the process of elimination – if no other options exist, then God must have made it. *But once viable options are found, this theory turns into theology* - as Paley would undoubtedly have agreed.

Jumping back to geology, the Panama Canal was created by some mortal intelligent designers along with about 100,000 mortal diggers and dirt carriers. You can tell the Canal was man-made by looking at it. Impressive - sure, but man-made. The Grand Canyon is over five times as long as that canal and is infinitely more complex. Yet it was carved out by erosion (which includes wind and rain) through a set of well understood and well accepted set of geological rules. If a man were to ignore these rules and instead believe that the canyon was directly carved by God, that would be his theological choice.

Of course, finding the mechanical process by which something is created no more disproves the existence of a higher being or force than denying the existence of that process proves that there is one. Millions of people believe that life flows on through these natural laws, but with a higher being gently steering the rudder. Natural laws were set up so that this being wouldn't have to paddle madly all the time, creating every parsnip and every muskrat with a big 'abracadabra' miracle. Recently, the term "Blind Watchmaker God" has been used to describe this, and I'll bet an atheist like Dawkins really hates that.

Speaking of 'really hates that', I can't imagine that Francis Collins is too pleased about being quoted in this section of Comfort's introduction. Collins, the director of the NIH, falls more into that last category of faith, and is decidedly not a creationist. I'll copy Comfort and quote Collins as well. And just to show you how cool I am, I'm going to take it directly from his book, *The Language of God*, and not from an internet posting of a British news article.

Young Earth Creationism does even more damage to faith, by demanding that belief in God requires assent to fundamentally

Darwigin of Species

*flawed claims about the natural world. Young people brought up in homes and churches that insist on Creationism sooner or later encounter the overwhelming scientific evidence in favor of an ancient universe of all living things through the process of evolution and natural selection. What a terrible and unnecessary choice they then face! To adhere to the faith of their childhood, they are required to reject a broad and rigorous body of scientific data, effectively committing intellectual suicide. Presented with no other alternative than Creationism, is it any wonder that many of these young people turn away from faith, concluding that they simply cannot believe in a God who would ask them to reject what science has so compellingly taught us about the natural world?*¹⁸

DNA Similarities (Page 13)

Comfort starts this section off by saying, "One typical 'proof' given for ape-to-man evolution is that chimpanzees and humans have very similar DNA."¹⁹ Right-o! He's already made two errors.

First, there's the ape-to-man thing. You know that famous evolutionary graphic that has a monkey on one side, then a creature that's a little less monkey, then one that's even less monkey, then it progresses a few more times so that the last creature is so not-a-monkey, he's actually a man? Creationists don't want you to believe in that. Neither do I. Neither did Darwin. That's not how evolution worked. Monkeys and men had a common ancestor a few million years ago – we did not morph from monkeys. Since everyone wants you to stop believing in that silly graphic, how about you cut it out and we move on?

The second semantic error is that Comfort's fictional version of evolutionist offers DNA similarities as a "proof" of their theory. Comfort is being very strategic by making DNA evidence the first evidence he attacks. The study of DNA is still very young, and not every geneticist is ready to call DNA similarities an absolute "proof". Certainly, observations into DNA so far have agreed with evolution and the potential to further decode the process is immense. But scientists are very careful with their words, and DNA similarities are still considered to be at the "evidence" stage.

Another word they are careful about is "theory." Creationists have often criticized evolution for being just a "theory". But a scientific theory is much more rigorous than say, a theory about the season finale of *Lost*. The academic culture ensures that theories are rigorous. How so? The process of academic

review was documented in the 1983 film *Bad Boys*,²⁰ which stars Sean Penn as a delinquent at a juvenile detention facility. In it, Penn follows the rules of the prison yard, and becomes the new cell block alpha male after beating the tar out of the old one. That's exactly how academic review works – once a theory is proposed, other scientists challenge it. If the challenger proves the theory wrong, he gains status. If he challenges with a counter-theory that proves superior, that theory becomes top dog. There is one small difference between academia and juvenile detention, however – scientists also gain status by finding and replacing bad parts of good theories. So Darwin's theory of natural selection has not only survived 150 years of attacks, it has been tinkered with and improved to near-perfection. Just like later scientists corrected the heliocentrism of Copernicus and fiddled to clean up Newton's theory of gravitation.

Darwin understood the rigors necessary to have an acceptable theory. That is why, in his plot to scuttle science in the name of biblical literalism, he was so astoundingly thorough in building his "theory". He didn't just return from South America and fling handfuls of finch feathers at naturalists, yelling, "Ha-ha! This is how I shall destroy your precious SCIENCE!"²¹ No, he took copious notes, preserved, and packed all manners of flora and fauna that he found on his South American *Beagle* trip, and then distributed them to a handful of specialists in England for further study. He developed theories on how islands were formed, and how different species of animals and plants could have migrated to them. He ensconced himself in the circles of pigeon fanciers, and learned how the breeders used their own selection factors to modify the physiology of their birds. He spent eight years studying barnacles, exhaustively researching how they functioned, the differences between the barnacle species of the world, and how one barnacle may vary from the barnacle next door. He reviewed and edited all manners of naturalist papers, and he filled notebook after notebook with his research. He employed all of this rigor just to develop a theory so bulletproof, it would become the obvious choice of subject material to be taught in 10th grade biology classrooms in Kansas.

It would have no doubt delighted Darwin to know that modern biologists and geneticists have continued finding evidence to support his "theory", thereby continuing the oppression of biblical literalism, and keeping the Creationist Christian Takfiri cause good and whipped up.

Speaking of evidence, we should get back to DNA similarities. Comfort points out that humans and chimpanzees share 96%

¹⁸ Collins, Francis. *The Language of God*. New York: Free Press 2006

¹⁹ Ibid.

²⁰ *Bad Boys*, EMI Films, 1983

²¹ In retrospect, Darwin didn't actually do this at all.

Darwigin of Species

of the same DNA coding, and notes that the 4% of difference represents about 120 million base pairs. And 120 million is a very big number. A very, very big number. And as we all know from mathematical theory, once numbers get big enough, percentages cease to exist. So therefore, there aren't that many similarities. (I'm paraphrasing)

Why do creationist arguments almost always center around the chimp-to-man connection? Would they have a problem with evolution if we declared that it applied to every species *but* man? Anyway, current measurements find the variation of DNA between humans to be about 1%.²² That adds perspective to a 4% variation. But don't be surprised if the chimp-to-human or the human-to-human numbers change - we're still relative novices at understanding genomes. Comfort also included British geneticist Steven Jones' amusing quote about humans sharing 50% of our DNA with bananas. (I have seen this number dip as low as 25%²³) This number will also undoubtedly change. Mankind hasn't yet scratched the surface on the human-to-banana question.

Transitional Forms (Page 15)

Transitional forms are organisms and fossils are intermediate stages between an old and new species. Darwin himself proclaimed that the evidence for his 'theory' would be found in the transitional forms in Earth's fossil record. And much to what would be his complete dismay, it was found there. But don't worry, Mr. Darwin - even though the story you concocted for your machinations turned out to be true, the creationists found a way to disbelieve the fossil record. Four ways, actually.

Hoax fossils - The first is by drawing attention to the hoaxes. Unfortunately, paleontology is rife with fake bones. Many societies have had to deal with the hardships of lacking YouTube and 24 hour news channels. The attention-starved maniacs of these societies had to work much harder to make asses of themselves in front of everyone. Claiming your son was in a floating dirigible wasn't possible, and many families boasted eight or more children. Emma Darwin, Charles' wife, gave birth to ten. Having eight at once might have put the mother on the radar, but fertility drugs hadn't been invented yet. Neither had radar. But a person with access to odd bones, chromium, and iron oxide sulfate could cause enough of a stir to sate their attention addiction.

Comfort can be completely factual when he reminds us of frauds like the Piltdown Man, the Archaeoraptor, and the

Encino Man, but what he excludes is information about the thousands of legitimate fossils that are discovered. He also doesn't mention that modern dating techniques are making it exponentially more difficult to allow a fraud to go unexposed.

Incomplete fossil sets - Another discrediting technique is to pooh-pooh at incomplete fossils, as Comfort does. The criticism is of the many conclusions drawn about a creature when only a few pieces of it have been discovered. Obviously, Comfort has never watched CSI: Las Vegas, and fails to appreciate the breadth of knowledge that can be learned from small amounts of evidence. Actually, I never watched that show either. But I did have the good fortune to work with one of the premiere forensic medical investigators a few years back, so I have a strong appreciation of what can be gleaned from a few clues. Besides, even if a magazine features a picture of a skull that is 10% bone and 90% plaster of Paris, that doesn't mean the professor that constructed it is 100% certain they got the puzzle right, and due to the rigors of scientific scrutiny, that professor would be a fool to overstate any of their speculations. The basements of museums are teeming with fossilized bones that were improperly collected, and therefore can't tell researchers anything. Only the ones that give solid information make it to the showroom floor.

Incomplete fossil history - Next up, creationists tell us that the fossil record is sparse, and has too many holes to demonstrate a complete continuity of evolution. The first part is true. Unfortunately, our prehistoric ancestors weren't thoughtful enough to vacuum-pack their dead friends. Hence we can only find fossils in the very rare locations where plants and animals could die, could resist degradation for a few million years, then could be accessed later by the mammals that bothered to look for them. The fossil record is, and will always be incomplete. Entire eras of species may not have been laid in places where they could be preserved, and are therefore as lost as the \$10 you lent to your roommate. But even though we don't have a continuous picture, the fossil record does offer proof.

Imagine if you found a picture of Kirk Cameron driving through Greensboro, NC in his sports car. You then find another one taken a few days later of him driving by West Memphis, Arkansas, then another driving shot taken a few days later in Albuquerque, New Mexico. Even though you didn't watch him make his trip, you can now prove that he went west. You can even back a very strong theory that he

²² Global Variation in Copy Number in the Human Genome Redon R, Ishikawa S, Fitch KR, et. al. Nature 2006; 444-54

²³ On a T-Shirt.

Darwigin of Species

took Interstate 40.²⁴ A similar chain of sparse evidence shows species evolving from one era to the next.

Transitional species/Missing links - Finally there are the holy grails of paleontology: The one fossil to prove them all. One person to find them. One discovery to justify them all and through evolution bind them.

“The Missing Link” refers to the one animal that was ancestor to both humans and monkeys. Creationists frequently talk about it when they remind people that such a beast has never been found. The media frequently uses the term as a sound bite when they talk about evolution because it is splashy, well known, controversial, and therefore sells papers. Scientists get rather peeved about this term because it falsely oversimplifies the study of 2.5 billion years of biodiversity down into just one creature. But occasionally, a scientist will use the term because it is splashy, well known, controversial, and therefore sells papers.

The missing link remains undiscovered because it is impossible to discover. A common primate ancestor doesn't mean that some mammalian mommy gave birth to Bonzo and Claire, where Bonzo continued to hang from trees while Claire went off to Dartmouth. There were an unknown number of transitional forms linking both Claire and the chimp back to that ancestor. There were also likely other offshoots from the species that weren't successful and died out. Add to the muddle that before the different species diverged significantly, there were nights where after a few wine coolers, one subspecies gave up on finding “Mr. Right” and settled for “Mr. Right Now”, as different breeds of dogs often do. Take all of this mess together, and we wouldn't be able to identify the missing link if she walked through the front doors of the National Science Foundation.

“Missing Link” is a term similar to “The Missing Link”, except there is no “The”. This is supposed to refer to a transitional species in general – not just to our famous hairy ancestor. (Even though the term is still sometimes used to refer to her) “Transitional species” is also used in different ways. It could mean life form “B” that lies in between a well known life form “C” and its well known ancestor “A”, where there has been a slow, steady transmutation between life forms “C” & “A”. In this instance, “B” would be rather salty with you for calling him ‘transitional’, because he'd consider himself just as legitimate a species as “C” or “A”, and he'd suggest that you quickly come up with some new letters between him and the other two, if you knew what was good for you.

²⁴ This theory may be challenged by the teleportationists that believe that Mr. Cameron arrived thanks to an Intelligent Beamer-Upper.

However, transitional species/missing link could also refer to a mutant species that branches off the original, is too incompatible with its environment to live very long or spread very far, but still manages to spawn another, heartier species before it curls up and dies. Like how rock ‘n’ roll transitioned through disco before becoming pop. This type of transitional form may seem to fit into a less likely scenario than the one I had called ‘transitional’ in the last paragraph, (but won't do so again, because he'll kick my husky butt) but it isn't completely unfeasible. Trouble is we'll probably never find the remains of such a creature. Of the jizzillions of creatures that have roamed the Earth since day 1, only a handful have left us their fossils. What are the odds of finding the remains of some mutant fish-frog that only hung out for a few hundred years in pre-historic Rhode Island? We would have a better chance of finding a coin that George Washington tossed into the Delaware River.

Anyway, the notion of “That which cannot be found physically disproves its own existence” is kind of a stinky idea for a faith-based group to be pushing. If I were you, I would be very skeptical about anyone who kept harping on finding “The Missing Link”, or used the term in chapter subheadings.

The Missing Link (page 21)

With TV cameras humming, and reporters, a new book, and a documentary waiting in the wings, the professor strode into the room and exclaimed, “Good news everyone! We've found the missing link!” Then he revealed Ida to the world. Ida is the new superstar of evolution, and while her introduction didn't go down exactly like that, it was fairly close. Despite what I just said about harping on missing links, I can't blame Comfort for going after this one. The carefully orchestrated fanfare over Ida's leap to the national stage is just too ripe a fruit for any debunker to pass up, not just a creationist one. Ida's press agents didn't go as far as identifying her as the penultimate missing link, but they did promote her as a missing link in the ape-chimp-human primate evolutionary grouping. Tudge's book, *The Link*,²⁵ was written before the public announcement, and while it is a good read, it is still fairly blatant advertising. (In case you didn't figure that out from the title, the fact that the dust jacket promotional quotes all came from Ida's research team should be a dead give-away.)

The scientific community was immediately skeptical of their findings, and Seiffert et. al. have just published results stating that Ida is most likely an adapiform primate, and is therefore

²⁵ Tudge, Colin. *The Link: Uncovering our Earliest Ancestor*. New York: Little, Brown and Company 2009

Darwigin of Species

closer to a lemur than she is to your grandma.²⁶ Although the Ida team's splashy and erroneous claims might tempt you to shrug this off as just another example of those wacky paleontologists 'crying wolf', there are two things you should take away from this: 1. False theories don't live long. The scientific community was on Ida's ancestry like white on rice. 2. Ida is still a remarkable fossil, and she will no doubt teach us much about lemur ancestry. If you know any lemurs, be sure to tell them. They will be very pleased.

There's one more thing we should consider about the area where Ida was found. She was dug up in the Messel Pit, a fossil hunter's treasure trove near Frankfurt, Germany. The Messel Pit formed as a result of deep sediment at the bottom of a volcanic lake. This particular lake, known as a *maar hole*, challenges creationist theory with its large selection of fossils that all stay within the realms of one evolutionary age²⁷ Just as evolution uses the natural selection theory to arrive to our present day existence, creationism uses the *Need for Speed/Burnout/Gran Turismo theory*. That is, all manners of creature took off together at the Genesis starting line, then many of them crashed and burned along the way, and thus were out of the race. But if that's the way it all went down, wouldn't we also find ducks, camels, emus or some other modern creature's remains be found along side Ida and her friends? If we all started together, those remains should also be present. Can you think of any dig site where this is the case? You can't, because there isn't. Dig sites show snapshots of the flora and the fauna of the era. They don't include the modern seagulls, rats, or humans that have been so efficient at spreading themselves worldwide. I would say that the Need for Speed/Burnout/Gran Turismo creationist myth has been completely busted.

Evolution's Difficult Questions (p. 22)

In this section, the question of whether incredibly complex and interdependent biological systems could evolve from simple systems is raised. Is it possible for a cardio-vascular system to evolve? What about an organ as complex as the eye? These are perhaps the most non-intuitive aspects of evolutionary theory, and Comfort is right for raising the issue. (even if he does start by inadvertently raising a difficult question of Biblical literalism - he reminds readers that there are 6000 species of reptiles, 1000 of amphibians, 9000 of birds, and 15000 species of mammals which would have all

²⁶ Seiffert E.R. et. al. "Convergent evolution of anthropoid-like adaptations in Eocene adapiform primates" *Nature* **461**, 1118-1121 (2009).

²⁷ Not to be confused with a *Maher-hole*, which challenges religion with its large box office turkey, *Religulous*, that stays within the realm of snide commentary.

been created in Genesis Chapter 1, only to be stuffed into an ark for 40 days in Chapter 6. Poor Noah.)

My answer to the difficult organ problem may be difficult for anyone of faith to swallow, not just the creationists. This is because I have to defer my answer to the world's largest hawk of atheism, Richard Dawkins. But he is also an extremely talented biologist. In his book, *Climbing Mount Improbable*, he does a very good job of describing exactly how the complex eye can evolve from simple structures that can be seen elsewhere in nature. It is, as they say, 'a complete slam-dunk'. Check your local library.

Vestigial Organs - Leftovers Again? (p.29)

The vestigial structure argument is a favorite among creationists. They point out many body parts that were once thought to have no use, but have since been found to have minor functions. The *coccyx* (tailbone) and the *plica semilunaris* (pink bit in the corner of your eye) have become celebrities of anatomy, as creationists continually point out their minor functions of supporting muscle and collecting makapiapia. These aren't big reasons for fame, but I suppose it's more than Paris Hilton has ever done.

It is fair to claim that these body parts aren't completely useless. But it is not fair to deny their vestigiality – because those bits are vestigial. Remember, scientists are very persnickety with words. "Vestigial" doesn't mean "useless". If scientists wanted to refer to a useless structure, they'd call it something more correct, like "a useless structure". A vestigial structure is a structure that is imperfectly developed or degenerated from a comparable structure found somewhere else.

This argument is an example of a great silliness that infects modern debate: the "*They said that*" technique. First, you announce something that your opponent said, then you deftly blow holes into their argument. Then everyone tells you how cool you are, and gives you high-fives. The only problem is that the opponent never made that argument – the speaker made it up so they'd have something easily squashable to attack. Creationists aren't the only ones that use this technique; it is also employed by evolutionists, liberals, conservatives, politicians, and salesmen. And your classmates too, when they are talking about their significant others.

Back to vestigiality. Birds have wings to fly – the kiwi's are vestigial. Fish have eyes – the cave fish's are vestigial. Primates have tails – we still have bones in our butts. Evidence for devolution of these organs is found by

Darwigin of Species

comparisons with similar species that have the working models. But at macro levels, this similarity isn't a guaranteed proof. Creationists who want to debate vestigiality would do better if they started there. The current argument is useless.

The Key is in the Context (page 30)

The key really is context. Comfort refers to anonymous 'critics' that accuse Darwin of being both a racist and a misogynist. He also pulls a few odd Darwin quotes out to prove these anonymous critics' points. But even if they were true, even if Darwin was hailed as the supreme king of the royal bastard brigade as he kicked orphans down the street, his personality still would have no bearing on the correctness of his work. But as I know that people aren't going to believe the work of racists, (which, thanks to Henry Ford and Charles Lindbergh, is why they believe in neither cars nor airplanes) I am glad to tell you that Darwin was not a racist. He was the opposite of a racist – he was an abolitionist of astounding vigor. He was adamant about the commonality of all mankind at a time when many considered slaves to be less than human. Historians Adrian Desmond and James Moore have written an entire book that speculates whether Darwin's main reason for publishing *Origin* was to end this inequality once and for all.²⁸ Nope, Darwin wasn't a racist. Not even close.

Did Darwin really think women were inferior to men? It's possible. Or he may have mentioned that women were superior in other areas in quotes that Comfort did not select. But if he did feel men were superior, can we fault him for holding a crusty Victorian view on women instead of our modern one? For a man of his period in time, he was considered an enormously ardent abolitionist, an enormously respectful and loving husband, an enormously loving father, and an enormously thorough and honorable man of nature. Dang, exactly how much more of a saint does the guy need to be?

Another Thought (page 31)

Did nothing create everything? This is perhaps the most important question that Comfort asks in his whole introduction. Comfort believes this question to be so important, he has expanded it and written a 222 page book about it. Out of respect for his concern, I have spent more time thinking about this question than any other that he has posed.

I wish I understood what the heck he was talking about.

As near as I can figure, the principle of nothing creating everything isn't something Comfort believes. It is something that he believes that I believe. Comfort believes that everything was created by God. (No surprise there) It seems that he also believes that scientists believe that things can appear spontaneously, like when Harry Potter magically creates a Patronus, or when Gleek, the blue space-monkey from the SuperFriends, pulls a bucket out of nowhere. What confuses me is how he could believe that any of us would believe that. Where could he have gotten that idea? Even if you got Richard Dawkins sloppy drunk in a nihilist's brothel, he'd never make a claim that foolish.

In the sciences, there are a few rules that are believed to be immutably true. Three of these immutable rules contradict Comfort's accusation, and they are universally accepted amongst scientists:

1. The law of conservation of mass – Mass will remain constant, regardless of any process acting upon it.
2. The first law of thermodynamics – Energy is neither created nor destroyed. It can only be transmuted into other forms of energy.
3. The law of compensations – Seminar attendance cannot be spontaneously created. It is dependent on the quantity and quality of the refreshments served.

In short, you can't get somethin' for nothin', and there isn't a lucid scientist out there that believes differently.

There is another rule that is believed among scientists, only it isn't strictly a scientific rule. It comes from the great social theorist, Marx, and it goes like this: "Who you gonna believe, me or your own eyes?"²⁹ While we are still delving in thoughts about creationism, intelligent design, evolution, and natural selection, (the rest of Comfort's sections deal mainly with Darwin the person) I will play my trump card. Why do scientists believe in evolution? Because we watch it happen with our own eyes.

Experimental evolution is a popular means to study infectious disease. Biologists take a virus culture and place it in a specific environment. That environment could be a happy one, full of yummy virus nummy-nums, or it could be a hostile one where the virus struggles to survive. Because viral generations pass so quickly, the biologists can actually watch the organism evolve in ways that let the species feed more and die less. Neat huh?

²⁸ Desmond, A. & Moore, J. *Darwin's Sacred Cause*. Boston: Houghton Mifflin Harcourt 2009

²⁹ Marx, Chico. *Duck Soup* Paramount Pictures Corporation, 1933

Darwigin of Species

His Famous Student (page 32)

Towards the end of his life, Darwin started sounding like a big meanie. He wrote about how our healing the sick and taking care of the weak make the human race weaker, when the theory of natural selection is applied. If this rule is applied with a cold, clinical eye, and without regard for other factors, it is true. Darwin's mistake was missing that our species is governed by other factors.³⁰ It isn't – just as it would be silly to wait for erosion to dig our tunnels or for rain to water our crops, it is silly to think we still rely completely on natural selection. So Darwin made a mistake. *Let him who is without sin cast the first stone.* Darwin wasn't Jesus, and nobody feels compelled to believe everything he said.

Hitler used this one fallacious theory of Darwin to try to convince Nazis that some races were less than human. Comfort quotes a passage in *Mein Kampf* where Hitler talks about this. He then quotes *Mein Kampf* five more times where Hitler mentions evolution, hoping that the reader will see a relationship between Darwin and Hitler. Comfort really needs to learn once and for all that evolution wasn't Darwin's theory. Darwin was the natural selection guy. The theory of evolution was around long before Darwin was born, and was widely followed in the fifty or so years after his death by naturalists before they came to accept Darwinism.³¹ Comfort needs to learn this. If you run into Comfort, could you please tell him?

Anyway, Hitler wasn't Darwin's student. For one, Darwin was extremely dead before Hitler was born, and that severely limited any tutoring opportunities. For another, Hitler was a lousy student. He took the bits of information that served his purpose, then distorted them to make them fit into his plan. What else did Hitler say? Let's check:

“This human world of ours would be inconceivable without the practical existence of a religious belief. The great masses of a nation are not composed of philosophers. For the masses of the people, especially faith is absolutely the only basis of a moral outlook on life. The various substitutes that have been offered have not shown any results that might warrant us in thinking that they might usefully replace the existing denominations. There may be a few hundreds of thousands of superior men who can live wisely and intelligently without depending on the general standards that prevail in everyday life,

but the millions of others cannot do so.” *Mein Kampf*, Adolf Hitler

“I am convinced that I am acting as the agent of our Creator. By fighting off the Jews, I am doing the Lord's work.” *Mein Kampf*, Adolf Hitler

“My feeling as a Christian points me to my Lord and Savior as a fighter. It points me to the man who once in loneliness, surrounded only by a few followers, recognized these Jews for what they were and summoned men to fight against them and who, God's truth! was greatest not as a sufferer but as a fighter.

In boundless love as a Christian and as a man I read through the passage which tells us how the Lord at last rose in His might and seized the scourge to drive out of the Temple the brood of vipers and adders. How terrific was his fight against the Jewish poison. Today, after two thousand years, with deepest emotion I recognize more profoundly than ever before the fact that it was for this that He had to shed his blood upon the Cross. As a Christian I have no duty to allow myself to be cheated, but I have the duty to be a fighter for truth and justice.

And if there is anything which could demonstrate that we are acting rightly, it is the distress that daily grows. For as a Christian I have also a duty to my own people. And when I look on my people I see them work and work and toil and labor, and at the end of the week they have only for their wages wretchedness and misery.

When I go out in the morning and see these men standing in their queues and look into their pinched faces, then I believe I would be no Christian, but a very devil, if I felt no pity for them, if I did not, as did our Lord two thousand years ago, turn against those by whom today this poor people are plundered and exploited.” Adolf Hitler, in a speech delivered April 12, 1922.³²

Was Hitler a student of Christianity? No. Was Hitler a student of God? No. Was Hitler a sage practitioner of Christian compassion? Oh, Lord, no! Hitler was just a master at twisting things to make people believe his evil. Darwin didn't believe that any race of man needed to be destroyed, just as surely as Hitler didn't do God's work.

³⁰ Beer, for example, helps ugly men to propagate.

³¹ It wasn't until Gregor Mendel's work on peas was rediscovered that people started moving away from Lamarck and towards natural selection.

³² Published in "My New Order," and quoted in *Freethought Today* (April 1990),

Darwigin of Species

The Hit List (page 35)

In this section, Comfort continues his assertion that Hitler was an evolutionist. (Have you seen Comfort yet? Have you told him that Darwin didn't come up with evolution?) Hitler probably did believe in evolution. Just as Osama Bin Laden probably believes in planetary orbital theory, Pol Pot probably believed in the theory of gravitation, and Idi Amin probably believed that geese could lay golden eggs. That doesn't prove these theories right or wrong, and it doesn't show that the people who first posed these theories were evil.

But in his hidden role as a covert fighter for the Creationist Christian Takfiri, Darwin would be pleased to know that people like Comfort would connect him with a jerk like Hitler.³³ In fact, part of his sneaky plan to make the world hate science was to make himself into a lightning rod for hate. Special agent Darwin wasn't looking to attract just one Hitler, either. He was trying to attract an evil trifecta. Hitler was only the first of three.

The second in his triumvirate was supposed to have been attracted to Darwin's overwhelmingly strong abolitionism. He, like the rest of his family, was completely opposed to slavery. But unlike the rest of his family, Darwin was hoping to harvest bushels of scorn from these beliefs. Remember that during Darwin's life, slavery was still rampant, and a sizeable population supported it. Getting associated with someone like Hitler was great for getting all of the good people to hate your guts, but Darwin needed to reach out to the utter bastards as well. He thought abolition would be a good way to achieve that. How was he to know that everyone would oppose slavery in 100 years?

Darwin's final piece of his triumvirate was derived from his first two plays. By combining the callousness to the life of the weak and the sick, (which, ironically, he was himself) with a humanitarianism that was unusually strong for his time, Darwin created a logic that was unfathomable and completely disjointed. He turned himself into a character that any study would find to be poorly constructed and confusing to the masses. His goal here was chaos. Darwin was successful in attracting a reviled follower of his choppy logic. You can see his disjointedness in the movies of Michael Bay.

Darwin and Atheism (page 36)

Well, this is refreshing. We've hit a topic that Ray Comfort and I agree upon completely. Not only do we agree, but we

³³ GODWIN'S LAW – Look it up on Wikipedia and see what you get.

agree about something that most of the rest of the world doesn't believe. Comfort and I are like the only two guys to find New Coke^[R] to be more tasty and refreshing than Coca-Cola Classic^[R]. But our maverick shared belief is over something far less pithy than soft drink preference - infinitely less pithy. We agree over Darwin's faith in God.

Many people believe that Darwin was leaning towards Atheism in his early life, and then completely gave up on God in 1851 when his adored daughter, Annie Elizabeth, perished at age ten. These assertions are based on the gauzily thin evidence of Darwin's not attending Church with his family, reports of his Atheism from his friends, and from his own personal insistence about not believing in higher powers. But Comfort has found evidence that shows Darwin was actually a devout man of God. In *Origin of Species*, he counted seven amazing times that Darwin referred to God as "Creator" plus a bonus reference to creation as the "works of God". Referring to God as the Creator was not just some funny slang that people threw around back then. When a Victorian said something like, "He worships his Creator"³⁴, or that they gave a "blessing"³⁵, they meant it!³⁶ I commend Comfort for his discovery of Darwin's hidden piety. I'll add to it that Darwin was also known to wish God's blessings upon people. Usually after they had sneezed.³⁷

As I have mentioned numerous times, Darwin wasn't an atheist. He was a special-ops Christian literalist deployed on a lifelong mission to convince the faithful to hate science. Ask any anti-religion nut³⁸, and they'll tell you how obvious it was that he was a Christian extremist: "Not only was he a rich, white guy, but there's also conclusive proof that later in life, he became an old, rich white guy. A Christian extremist, Q.E.D."³⁹

But there's one fatal flaw to Darwin's *connivance* – you can't attack him for the theory of natural selection because it is not really his theory. Just as Marie Curie didn't invent radiation, Albert Einstein didn't invent energy, and Isaac Newton didn't invent the apple,^{40 41} Charles Darwin didn't go into his

³⁴ [snarky criticism] directed at a self-made man with a high opinion of himself.

³⁵ A bottle of whiskey given to the pilot as he left a ship.

³⁶ Partridge, E. and Simpson, J. *The Routledge Dictionary of Historical Slang* London: Routledge 1973 p. 82, 432

³⁷ Oh, by the way – I refer to Bruce Springsteen as "The Boss". That doesn't mean that I believe I work for him.

³⁸ Not to be confused with atheists. Atheists don't believe in God. Anti-religion nuts hate people of faith the same way the Klan hates African-Americans, or a misogynist hates women.

³⁹ By the law of the shallow, poorly constructed stereotype.

⁴⁰ Steve Jobs invented the Apple.

Darwigin of Species

workshop one day like some Victorian spark and whip up the mechanisms for species transmutations. He was just the first to notice them and write them down.

He didn't even notice all of them. Sure, he noticed scads of them, reams of them, possibly even oodles of them, but not all of them. Generations of biologists, naturalists, geneticists, paleontologists, immunologists, geologists, zoologists, etc. have been testing the theories of evolution, discrediting the pieces that don't work, and adding new theories that do work. As science and nature writer David Quammen points out, you can get a Ph.D. in evolutionary biology without ever reading Darwin's *Origin of Species*.⁴² If you could will Charles Darwin out of existence, the theories behind evolution wouldn't go away. If worshippers of Thor⁴³ had a problem with claims that lightning bolts weren't their god's own personal spears-o-smiting, discrediting Benjamin Franklin wouldn't magically stop those bolts from being made of electricity.

No, if you discredit Darwin, erase his name from the history books, or go back in time and convince young Charles to take up phrenology instead, there would still be a theory of natural selection. It would just have someone else's name attached to it. Most likely, that name would be Alfred Russel Wallace, the Welsh explorer, cartographer, naturalist, and curious fancier of Wensleydale cheeses.

Funny story - if it weren't for a particularly deft hand of fate, Wallace would have introduced the theory. While working as a commercial specimen collector in the Malay Archipelago, Wallace noticed the differences between breeds on islands, and independently came up with a similar theory of natural selection. But since his occupation, his wealth, and his birthright made him an outsider to the gentlemanly naturalist class, Wallace didn't send his groundbreaking manuscript directly to the leading journal. Instead, he sent it to a well respected naturalist that could put the good word in for him. He chose one he hardly knew, but seemed rather kind and also didn't have any competing theories published. He mailed his manuscript to Charles Darwin.

If Mr. Comfort and his ilk actually *liked* Charles Darwin, they would undoubtedly praise this as a miraculous act of divine intervention. By the time the manuscript arrived in England,

⁴¹ ...and if you ask any longtime Mac users, they'll tell you that Jobs also invented radiation *and* energy.

⁴² Quammen, David. *The Reluctant Mr. Darwin*. New York: Atlas Books/Norton 2006

⁴³ I'm not sure what they call themselves - I think they might be "Thortherors". A young initiate would then be a "Thortheror's Apprentithe". (No one is forcing you to read all of these footnotes, mate. You can stop at any time.)

Darwin had put in 21 years of secret and obsessive-compulsive research into *his* theory of natural selection. Though Darwin's theories were much more complete, Wallace nearly grabbed the prize. Science doesn't normally declare the back-breakingly thorough researcher the title of "Legendary Big Baller of Science". That honorific usually goes to the first theorist seen running butt-naked down Main Street shrieking, "Eureka!" (with the condition that the streaker's theory survives a peer review) The back-breakingly thorough researcher is awarded the title of "Post Doctoral Fellow".

Honorable fellow that he was, Darwin worked with his colleagues to ensure that Wallace's discovery got full exposure, without discrediting his own august and preemptive research. The imminent surprise release of Wallace's paper didn't give much time, and he fretted away as he threw together his own last-minute paper, so that the two could be released together.⁴⁴ History decided the rest, and in a rare and shining moment, the quiet guy who did the lion's share of the work got the credit, and did so without inserting a knife between anyone's shoulder blades.

But the best deeds never do go unpunished, do they? If there is some alternate reality Bizarro-Earth out there where that manuscript did go straight from Malay to the publisher, modern day creationists wouldn't be nearly as motivated to tear down Wallace, be he evil or divine. There might not be a creationist movement at all. Why not? By applying a wide range of hijinx to get his theory accepted by the scholarly community, Darwin hit upon the golden one - thoroughness. If Wallace had been awarded the sciency big baller's crown for his 20 page manuscript, the award would have been followed by a mad rush of researchers staking their claims on the fertile and unexplored parts of the theory. This would have profoundly affected our abilities to accept and refute the final work.

Consider this: It was long believed that a person's health was governed by four aqueous humors - blood, phlegm, black bile, and yellow bile. These fluids were created in different proportions by the squishy innards that later became known as organs.⁴⁵ Western religions fully embraced the 'four humors' theory of medicine, and considered research against it to be sinful. Yet today, there is no rift between doctors and humorists. The humor theory is only taught in 'History of

⁴⁴ I think I know how Darwin felt. I've had about a month to put this essay together after first seeing Cameron's YouTubery, so extreme apologies for any source material that I may have fuddled or left out.

⁴⁵ Of these organs, ancient men believed the spleen to be the most humorous. Ancient men like Mel Brooks.

Darwigin of Species

Medicine' elective courses that nursing students take to prop up their GPAs. How did the intelligent design theory survive the extinction the humor theory suffered?

Quick! - Name the physician that disproved the 4 humor theory. Got anything? No? Don't feel bad. Medicine's big ballers aren't as iconic as some other sciences – there were just too many people making too many discoveries to be able to award one of them the bolus of glory for replacing humorism. It probably started with one guy noticing another bodily secretion (like ear wax) had some nifty anatomic function that the four big fluids didn't cover. Or maybe it was eye goo. Whatever. What mattered was that physicians began looking past the old theory, and finding novel ways to understand the human body.

Pretty soon, doctors were out prancing madly in the streets, going willy-nilly with discoveries. "Oh mon Dieu!" one of them would cry, "It can only be ze louse. Ze dirty fever, it comes by the body louse."⁴⁶ "You think that's somethin'," another would reply, "this lot over 'ere caught a case of the stinkin' pukies by usin' the Soho water pump!"⁴⁷ Then some sloppy scientist started touting a mold he found on his dirty lab dishes as the new miracle cure. The cacophony grew, and the whole thing snowballed into a wanton profusion of sick-healing and life-saving.⁴⁸ The poor 4-humor loyalists woke up one morning and found their theory buried by a mountain of evidence piled up by an army of physicians. Sheer numbers had won the day. It was too daunting to prove all of the medics wrong, and even if they could prove that the eye goo guy's theory was a bunch of pork-pucky, they knew that another guy's theory would quickly take its place. The old theory was completely defeated, and the mopey humor-loyalists were driven into the dark nether regions, left with only one of their beliefs unshattered - that childhood vaccines caused scurvy.

The same fate was not true for evolutionary biology. Darwin, in his completeness of researching every conceivable corner of the theory, had set himself up as the ultimate assailable figurehead. Don't like natural selection? Just lob some criticism - any criticism, real or imagined - at him personally. Call him an atheist. Or a theist that only thinks he's an atheist. Or a misogynist. Or a racist. A terrorist for Satan. A dual Nazi-Communist hybrid. A guy who likes to dress in a fuzzy ocelot costume and attend creepy conventions. Call him

anything that strikes your fancy. Assail the man, and you're assailing the theory by proxy. (But not really)

Atheist Penn and the Time Bomb (p. 39)

This is Comfort's final section on intelligent design. Further sections contain his arguments about Christianity being superior to Hinduism, Buddhism, and Islam. I'm not touching those. But this last section is based on a quote by Penn Jillette,⁴⁹ (from the magic act of Penn & Teller) and I'm going to touch it.

Many years ago, a very good friend of mine got to interview Penn Jillette on our college radio station, WKDU. My friend let me sit in the DJ booth, and I still remember the on-air conversation they had: Mr. Jillette told the story of how he had recently masturbated in a New York City telephone booth. Um...yuck.

So this begs the obvious question, "In his argument against one of the most important books in science, why did Comfort reference a Las Vegas magician with a seedy persona?" Remember what I said about theories and proofs? Well, this is an absolute proof that Comfort's motivations have nothing to do with science, and are rooted completely in theology and wishful thinking. Inserting Penn was the equivalent of a mechanic replacing your catalytic convertor with a dream catcher. Great mechanic, huh? He completely ignored how a car works, and not only threw in something that obviously doesn't do the job, it serves an esoteric purpose one hundred thousand miles (or ten years, whatever comes first) from what it was supposed to do.

Look, you don't win the Super Bowl by baking the best pie,⁵⁰ you don't get a better health care plan by challenging Obama to a dance contest, and you're not going to disprove any science by fighting with theology.

Mr. Comfort, I hope you read this. Not because I wish to insult you, (and I apologize if I have done so. I've tried to keep my hits above the belt) but because you really need to know why your message is flawed. You've fought with a lot of evolutionists, but I don't think you've ever gotten sincere advice from one. I am going to give you some sincere advice right now.

⁴⁶ Dobson, Mary. *Disease – The Extraordinary Stories Behind History's Deadliest Killers*. United Kingdom: Quercus 2007

⁴⁷ Ibid

⁴⁸ The reader should, at this point, find it exceedingly obvious that I never took the "History of Medicine" elective.

⁴⁹ To be fair, the section wasn't entirely devoted to Penn Jillette. Comfort also somehow wrangled spoilers for the Pixar movie "Up" in this section. I'm not going to go near that, because I don't want to be a jerk and spoil the movie.

⁵⁰ Even if it is a really, really delicious pie.

Darwigin of Species

1. No minds are ever changed by people who are closed to having their own minds changed. If you are closed minded, you'll only convince people whose minds are closed in the same places.
2. If you want respect in the prison yard, you have to fight by prison yard rules. There are a lot of rules in science. Some, like testing hypotheses before drawing conclusions, keep results impartial. Others, like not plagiarizing biographies or using tertiary scientific sources, are semantic. All rules need to be followed if you wish to have credibility.
3. Be ready to modify your theory when well established results conflict with it. The result might not be what you originally envisioned, but it will be a lot closer to the truth. It is tough for any scientist to give up on parts of their theory, but they do it because the goal is always truth.
4. Feel free to continue to experiment with established results that make you suspicious. You might just find a chink in the armor. But don't walk out into the prison yard until you know you've got everything you need to win the fight.

Mr. Comfort, I hope that you take my advice, even though I don't agree with your theories. But I didn't write this essay because I disagreed with your theories. I wrote because I have a problem with the 'scientific' veneer you use to present them. I think it's damaging, and I don't know if you realize how damaging it is.

Between the media and internet chat rooms, every issue is being turned into a for-or-against, black-or-white argument. Your presentations pit religion against science. Not just your religion – all religion. The people that aren't shouting in this evolution/creation deathmatch don't get air time. As a result, fights like yours are most of what people see and learn to associate with religion. That's not speculation – I know plenty of people who have felt snubbed by religion because they are liberal, gay, scientists, etc. and have given up on faith because of it. I hope you will agree that religion should not be in the business of pushing people away. Please be a bit more thoughtful with your message, and please stop pushing people away.

Chapter 3: Survival of the Faithiest

Hey, remember back in my introduction when I said that this section would stink? Well forget that. A month has passed, and this section has become perhaps the most important part. My biggest hope is that this essay will destroy creationism's silliest, most obviously incorrect, and most insulting myth – that evolution is a theory for atheists.

Creationists argue against evolution from the side of faith. They have tried using science in their argument, but they fail to follow any of the rules. (This make scientist angry! Scientist smash!) The academic response has been an astounding outpouring of solid science showing that evolution is true, often angrily hurled at creationists. Their arguments are way more factual and complete than the ones I presented in the last chapter. (And I'm sure they will pounce on any mistakes I may have made) But there have been surprisingly few arguments for evolution that take faith into account. Creationists have seized on this, and have declared evolution to be a tool of atheism.

Harken, O Ye Faithful Evolutionists

I can prove that not all evolutionists are atheists. Ready?
Ahem - I am not an atheist. Ta-da! We're done.

Not good enough? Normally, I don't talk about my beliefs, but I made a point of doing it here. But I guess you want more. Well, we have plenty of evolutionists where I work, which isn't surprising. I work in a genetic research laboratory. What you may find surprising (but you shouldn't) is that a large number of them are very religious. I'll go further – in my wayfaring career, I've worked in robotics, medical, and high energy physics labs. My non-scientific observation has been that there were more people of faith in genetics labs than the others. While not every aspect of genetic research involves evolutionary study, a great portion does; enough of a portion for me to assert that the majority of people in those labs needed to follow evolution to do their work. Therefore, I can attest that not all evolutionists are godless savages.

You say you still want more? Let's see...there's my Mom – she's pretty religious, there's that guy I was talking to yesterday in line at Chipotle, and um...oh, and the Pope, the Union for Reform Judaism, and the Dalai Lama.^{51 52 53} Those

⁵¹ After calling the creation/evolution debate an "absurdity", Pope Benedict XVI stated that that evolution can coexist with faith. **From:** MSNBC: "Pope: Creation vs. evolution clash an 'absurdity'", July 25, 2007

<<http://www.msnbc.msn.com/id/19956961/>>

⁵² The URJ passed a resolution that denounced intelligent design along with other politicized, distorted research.

From: Resolution: Politicization of Science in the United States, URJ, November 2005

⁵³ "In Buddhism, experience and reasoning come first, and then scripture.... This is what the Dalai Lama means when he says that if modern science presents good evidence that a Buddhist idea is wrong, he will accept the modern science"

Quote from: Eisen, Arri. *Creationism vs. Integrationism*.

Darwigin of Species

are some pretty gosh-darn religious definitely-not-an-atheist people right there. With people like that batting for evolution, how could you ever think the theory is an atheist's domain?

Is Ignorance Divine?

I can't point to any one thing and say that it is proof of a God. But if you asked me what I thought the strongest indication of a guiding force was, I'd say it is the *miracle of us not blowing our damnfool selves off of the planet*. One of the biggest coincidences in history is that out of the 6 million year history of mankind, we only managed to develop atomic weapons a year or two after we developed the humanity not to use them. True, America is guilty of dropping two. But the majority of Americans were moral enough to cauterize our nation from ever doing it again once they learned how horrific and devastating those bombs were. Imagine if man made those bombs in 1935 instead of 1945. Hitler would have had the bomb, and once he learned how horrific and devastating those bombs were, he would have done an obnoxious little end zone dance and then look for more targets. Science packs a big punch, and much of it is more than humanity can handle.

The same is true for biology. Imagine if back in 1440 B.C., God gave keynote address at the Genesis Writers' Symposium where He explained variation mechanisms of species and the elements in genomes. By Darwin's time, biology would have been much more advanced than it is now. Would that have been a bad thing? Consider that the average person of the day wasn't a naturalist, and their concern for nature didn't extend much further than sprucing up their garden. Intricate planting designs for flower beds and the new ground cover plant introduced at the Philadelphia Centennial Exposition affected people's interest much more than the evolution of the persimmon. That new ground cover, by the way, was later planted in Southern states, and it became known as "kudzu".

Oops. (You Southern states should have listened to South Carolina when he told you not to trust anything imported by a Yankee) Imagine what horrific Cthulian topiary might have been unleashed upon the world if those gardeners had access to genetic modification. It's only recently that we've started diddling with genes, and it's only recently that ecological balance has become a world concern. Say what you will about ozone layer holes, global warming, and the depletion of game preserves and fisheries, these issues have raised international concerns that are advancing eco-ethics. We'll need these when we're able to construct real genetic

monsters. If there is a supreme being watching over us, it wouldn't have been in His best interest to teach us everything up front. We are still children, and we must be kept away from the matches and the booze until we are mature enough.

Hey, Hey, We're the Monkeys

Religious opposition to evolution is based on the notion that it contradicts the divinity of man. It does not. If you are a true believer in the divinity of man, evolution just better defines how man came to be divine. Was man created in the image of God, or are we slowly and steadily approaching that image? Genocide and murder were much more common a few thousand years ago, and those aren't divine things. Cannibalism is virtually extinct, and slavery is heading that way. We are becoming more concerned with stewardship of our planet. Our divinity is increasing. Also, we remain the only species that can contemplate divinity, despite the evolutionary opportunity for a similar species to develop in areas where they wouldn't compete with us. (like the ocean) We are the only species that is unraveling the miracles of life and the universe. If you believe that man is divine, certainly you recognize that man is becoming more so over the years. Evolution just follows that trend back to the beginning. If you believe in man's links to divinity, you should have no beef with evolution.

Team Atheist!

Many references to the "Atheist World" or "Atheist Community" are made in creationist literature, such as Comfort's OOS introduction. These references overplay how united individual atheists may be. But atheists are characterized by a lack of something, not by something. Giving them world group status is like talking about the "Fraternal Order of People who Dislike Hip-hop."

Shenanigans! Shenanigans! You're calling shenanigans. OK, you caught me. There is a much stronger unity among atheists than hip-hop-haters. Why do you think that is? These groups don't hold annual family dinners to celebrate what they disbelieve, nor do they sit in concert halls to not hear music together. Yet the number of atheist groups on campus is soaring, and groups like the-brights.net and richarddawkins.net are picking up steam. The number of "We really don't care for Jay-Z" groups is still zero. Why is that?

It's because many religious groups attack atheists. Their banding together is a natural response to defend themselves and their (dis)beliefs. The attacks from creationists are particularly harsh, since they lump evolution together with

Darwigin of Species

atheism, then attack both. You have to wonder – if biologist Richard Dawkins' life work in evolution wasn't attacked so vigorously by creationists, would he have become such an ardent atheist? Certainly he wouldn't have been so loud about it. He's a biologist at heart and if he was left to his work, he'd spend his life doing what other happy scientists do – give lectures, write grant proposals, torture graduate students, etc. But scientists can be a cranky bunch,⁵⁴ and Dawkins has been pushed into wasting much of his microscope-peering time trying to find ways to combat religion. When you make people feel oppressed, they cling harder to their beliefs. Where have I heard that before?

⁵⁴ Just wait until James Watson finds out that I left him out of this essay...