License

Introduction

We first look at some common criticisms of creationism. One classic work is done by Pennock (Pennock 2003) . At the time of publishing, Pennock was at the Lymann Briggs School and Department of Philosophy, Michigan State University according to the publication. The document is more of a manifesto laying out strategies for scientists to defend good science, which is in his work, defined as the theory of evolution.

Criticism 1: Creationists use Argument from Ignorance

Pennock states that creationists use “argument from ignorance”. Argument from ignorance is a classic logical fallacy where a person thinks A is true because of the lack of visible evidence that contradicts A (Walton 2010) . Walton seems to be an expert in this field and has specialised in these sorts of logical fallacies. Though he himself has published literature stating that there are certain cases in which argument from ignorance is non fallacious (Walton 1992) . That however, is out of scope for the time being.

In the context of creationism, one argument which a creationist might fallaciously make is “we cannot know for sure how the world came to be, or that we cannot be sure that evolution has produced the biodiversity that we see today, therefore there must have been a God who made all the biodiversity”. Anecdotally, I may have heard of some who hold to this view. It’s a little cringy, though I hold on to the same axiom at the end of the day. Process is important though, and one ought to take care of how these thought processes arise. Personally, I don’t agree with this line of reasoning either.

I might make the assertion or axiom that things that look “intelligent” should be “intelligently designed” as an axiom. Axiom 2: I would make the observation that physics from quantum mechanics to relativity seem to have a certain mathematical beauty to it. Axiom 3: Mathematical beauty hints at intelligence. If one presupposes these axiomatically, one can arrive at the intelligent design conclusion without the logical fallacy of argument from ignorance. Lennox, an apologist and mathematician might agree with these axioms (Lennox 2009).

Though of course, the axioms themselves are not universally agreed upon. Beauty is subjective and potentially another philosophical can of worms altogether. We shall not discuss it yet.

Okay, we’ll leave it here for now, there are other matters to explore. I’ll probably come back to this later (TBD).

Criticism 2: On Irreducible Complexity

Pennock writes that writers such as Behe developed a concept of irreducible complexity, and how Behe's arguments were refuted when Biologist Allen Orr showed that a Darwinian mechanisms could have indeed produced such systems. The paper is titled Darwin v. Intelligent Design (Again) (Orr 2005).

This was published in the Boston Review, A political and literary forum as originally cited by Pennock, or in Think Autumn in Cambridge University Press. Are these peer reviewed? It seems to be more a forum in the former case or a university magazine rather than a peer reviewed paper.

Now in Orr's writing, he essentially quotes that "evolutionists all know that from the time the earth formed, it took three billion years to evolve the first true cell but only half as long to get human beings from this cell". (Orr 2005) The claims here are quite vague. What is the mechanism and chemistry? Where are the peer reviews? And how did you come up with three billion years? Where are your error bars? And what is the mathematical model used to come up with this timeframe? I need to see how you came up with those numbers. Probability in abiogensis is as much a big black box if you don't quantify how it happened. Looks like I'll need to search more literature here.

Orr writes that while it is highly unlikely that all the parts of an irreducibly complex system are assembled simultaneously, he asserts that "Behe's colossal mistake" is that no Darwinian solution remains. Orr says that an Behe's colossal mistake is that in rejecting the possibility that irreducibly complex parts can be evolved one part at a time provided the sub parts of the reducibly complex system serves some function initially. He gives the examples that air bladders evolved into lungs. So while lungs are extremely complex in that having one part fail would shut the whole thing down, they could have evolved via Darwinian mechanism. (Orr 2005) Orr then goes on writing that this scenario is not hypothetical and he uses the experience of computer programmers.

Programmers may iteratively develop programs and build lines of code one stage at a time. Each line of code does one job, but as the programmer makes changes, he or she is able to iteratively improve the program until the final piece of software does a more complex job, where all lines of code are needed. (Orr 2005)

I find it amusing however, that he would use a programming analogy, given that program development requires many many steps of intelligent guided design. It is an analogy that serves more to strengthen the argument of intelligent design rather than weaken it. This is because an intelligent programmer or designer is already assumed from the get go in code development.

I'm writing this repository on Github and have experience with various programming languages and with writing and using simulation software. I know how complex things can get. A programmer does NOT randomly program functions and classes which do random things, and assmeble them together by chance. A programmer also cannot do anything without first knowing the syntax of the language. This requires intelligence as well, doesn't it? You don't just randomly type things into the interpreter or compiler and hope it works. And guess what, interpreters and compilers are also intelligently designed by other programmers. These then run on an operating system, such as Windows or Linux. And I know the Linux Kernel is incredibly complex and designed by highly intelligent people. And that's only software, we haven't even discussed design in hardware, as well as the electrical and cooling systems required to support the hardware.

Moreover, a programmer has some end in mind they want to achieve. Whether it is Computational Fluid Dynamics simulation, or mesh building, or building some artificial neural network. Given that end goal, the programmer then breaks down the problem into many parts with the use of Object Oriented Programming to segregate the required functions and data into various classes as is the often the case for C++, Java or C#. A programmer may also choose to organise the required tasks via

Functional Programming, via Haskell perhaps. Regardless of the code paradigm, there will be an intelligent programmer planning how the program runs, and how it should function to meet customer needs. There is more often than not, the presence of well thought out design when it comes to real world software development and research. So, in Orr using the programming analogy, I think it is a very poor choice of analogy in trying to prove his point.

Now, a programming analogy may not carry over directly to biology. But it is worth looking at the underlying scientific work behind the arguments. Orr quotes H. J. Muller's work in 1918 and 1939 "that genes that at first improved function will routinely become essential parts of a pathway. So the gradual evolution of irreducibly complex systems is not only possible, it's expected" (Orr 2005).

Now, I'll be interested to go down the rabbit hole of H. J. Muller. This was what I was looking for. Probably come back here and write more. A good place to start is one of Muller's most well quoted papers "The relation of recombination to mutational advance" (Muller 1964).

To be Continued… I'm taking a break tonight…

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