

Chapter 16: Evolution Since the Cambrian Explosion

This book did not use the evolution of higher animals or plants to infer design. This choice was not arbitrary. Information theory cannot be used to model the evolution of new genes in animals and plants for two reasons: 1) most of this evolution is the result of re-arranging and shuffling existing information 2) the DNA is often very similar.

The DNA sequencing projects in various animals and plants have revealed several surprises.

- The genes found in a mouse are for the most part the same genes found in man. The genes might be slightly different but they are clearly the same genes. The genes in man and fish are also for the most part the same genes. Furthermore, the DNA in man and chimpanzee is almost identical - not only are the genes the same, but the base pairs in these genes are often identical.
- New proteins rarely evolve by point mutations in existing genes to create new genes. Instead, segments of an existing protein (called a domain) are combined with domains from other proteins. This process is called exon shuffling. Exon shuffling explains the origin of many new genes in eukaryotes.
- Life also uses mRNA sequences to create new proteins. After a mRNA sequence is transcribed, a protein called a spliceosome will cut out sections of the sequence. This brings different protein domains together in the final protein when it is translated. Through this process, one gene may encode many different proteins.

When new information evolves by re-using existing information, the probability of such evolution is path dependent. It depends on the initial information and how this information must be shuffled to create new information. Thus, one must know the history of how a gene evolved to compute its probability of evolution. This is beyond the scope of information theory and beyond the scope of this book.

Probability theory could certainly address the above issue. Nevertheless, no one has proposed a detailed and accurate model. Most scientists assume naturalistic laws are responsible, so they see no compelling reason to propose a model. The few models they have proposed rely on flawed computer simulations. Likewise, most advocates of intelligent design assume that naturalistic laws are not responsible; as a result, they have proposed no models.

This book proposes no models to describe evolution by information shuffling. My position is that until a model is proposed showing that exon shuffling and mRNA splicing cannot create new genes, the naturalistic axiom must be given the benefit of the doubt.

This position does not undermine the design inference or intelligent design theory because the inference can be drawn entirely from the origin of life and the evolution of the first genes and proteins. The first gene was not created by re-arranging and shuffling existing information because there was no information to shuffle and re-arrange. Exon shuffling and mRNA splicing are both highly evolved events in eukaryotes. Primitive self-replicating molecules cannot implement such a system. Not only do they lack information to shuffle but they don't have the machinery to shuffle it.

Finally, it is illogical to infer design for the origin of life and then assume that the designer had nothing to do with the rest. So there is a very good chance that mankind is here for a reason, that our existence was planned by the creator, and that evolution was simply used as a tool to simplify creation. Nevertheless, proving the above assertions is beyond the capabilities of information theory, bioinformatics, biochemistry and molecular biology. These beliefs will likely always require faith.