Intelligent Design and Evolution Awareness Center

Non-Functional Intermediates in Human Physiology

Looking at *What Darwin Didn't Know* by Geoffrey Simmons, M.D.

As found on the IDEA Center website at http://www.ideacenter.org

There are various aspects of human physiology for which it is difficult to imagine functional intermediates. In his book, What Darwin Didn't Know, Geoffrey Simmons, M.D., outlines many aspects of human physiology which pose challenges to evolutionary theory because it is difficult to imagine how they could have evolved in a functional-at-each-step type pathway. Dr. Simmons begins by pointing out that, "[o]ther than his study of the microscopic male barnacle, there is little evidence Darwin knew anything about cellular functions."(ref 1; all further references also to ref 1.) Simmons notes that the human body has incredible tightly integrated complexity:

> Every aspect of human physiology has multiple facets, steps, purposes, managers, feedback loops, and anticipated outcomes. The idea that ten or more trillion cells can even coordinate with each other is mind-boggling. (pg. 32)

Simmons concludes, that "every function is too complex to have been formed by slow accidental changes that luckily fit together." (pg. 41) The first example Simmons gives is the human reproductive system:

> All aspects of human reproduction either had to have evolved in unbelievably specific, compatible, and parallel ways --or else all these aspects arrived simultaneously ... Every significant change in the male's reproductive system had to be met with a reciprocal change in the female's (or vice versa). (pg. 55)

A second example given is the human neurological system:

> Every bodily action is coordinated by conference calls between millions of neurons in the brain. Imagine a multinational corporation with 35 billion employees who stay in constant touch with each other and are capable of making trillions of decisions every millisecond. (pg 90-91)

According to Simmons, a simple action like walking or stopping to smell a rose requires the coordinated work of billions of neurons. These seem to pose a challenge because many neurological pathways seem to be necessary for the function of advanced animals--perhaps there is an irreducible core of programming that is needed.

(Simmons also notes that if the first life began 3 billion years ago, then to achieve the current size of the human brain, it would have required the addition of an average of 33 new and different neurons each year. If we take a more likely estimate like the origin of the first modern-like animals about 600 million years ago, then there would need to be an addition of about 1000 "perfectly functioning nerve cells per year" to reach the current size of the human brain.)

Although evolutionists might counter that some of these systems could evolve in a step-by-step manner, Simmons introduces the concept of the "Whole Package Phenomenon" (WPP) where there exists a form of irreducible complexity, where all the parts must be present:

> The endocrine system includes the pituitary, thyroid, and adrenal glands, the testes and ovaries, and numerous smaller islands of tissue located in the pancreas, heart, lungs, kidneys, stomach, liver, and placenta. Each gland produces specific hormones that carry messages to target cells, telling them what to do, when, and how. To date there are more than 40 hormones known, and the production of each one is controlled by a feedback loop. Many work in parallel or tandem, some compete, and some have double or triple feedback loops. The overall complexity, the necessity for WPP--whole package phenomenon--and the need for all systems to be in place simultaneously strongly challenge[s] evolutionary theory. (pg 167)

Simmons notes that these feedback loops are complex and it is difficult to imagine how they could arise through evolution:

> Hundreds of different feedback loops are at work in the human body, crisscrossing, overlapping, and interacting with each other all day long. They involve millions of compounds that know exactly how to find their target cells. These cells know what to do with each message. A single cell might receive TSH, GH, LH, and FSH [various hormones] multiple times in the same hour. The endocrine processes often interact with each other ... Nearly all these hormones had to have appeared simultaneously, along with their target cells, and the feedback loops. (pg. 176)

It is difficult to imagine how these feedback loops could evolve, and Simmons notes that similar ones exist in the gastrointestinal system. The circulatory system also exhibits many aspects of a "WPP" for which functional intermediates are difficult to imagine:

> Evolutionary development would have had to account for each of the circulatory system's characteristics separately and simultaneously to explain the human species. There could not have been blood vessels without a heart to pump the blood or a brain to monitor the heart's work. There could not have been a human being without a circulatory system capable of

> delivering its goods to every cell. There could not have been blood without bone marrow to produce it or a spleen to remove aging cells. There could not have been a viable human (or indeed any animal) without a way deliver cellular waste products to the kidneys. ... [such an organism] could not exist unless millions of extremely unlikely occurrences came about at exactly the right time and in exactly the right manner. (pg. 211-212)

Simmons makes one final argument which is worth noting. Natural selection is supposed to preserve things which aid in survival. But some of the intellectual capabilities go far beyond what is necessary for survival (for that matter, to attract a mate). Simmons notes that savants who have extraordinary mental capabilities stun what should be evolution should produce. According to Simmons, some "savants" can do amazing things like listen to any musical piece once and then play it note for note, accent for accent; or play thousands of songs from memory and sing in multiple languages: "[e]very song he had ever learned was stored in his memory for life." (pg. 248) These gifts are "far beyond [what is necessary for] mere survival" (pg. 249)

Many aspects of human and animal physiology contain large numbers of interacting components and systems which it is difficult to imagine could have evolved in a step-by-step manner without going through a non-functional stage.

References:

1. *What Darwin Didn't Know*, by Geoffrey Simmons (Harvest House, 2004)