Smoky Mountain Bible Institute
Biology, Genetics 110

Welcome back to the lab. The subject matter at hand is biology and we have discussed many aspects of this field of study, but we have not ventured into the amazing field of genetics. This is such a large topic that I will cover it in a cursory fashion, encouraging you to do some research yourself on this body of data that begs the question: where did all this information come from? So, let's jump into the primordial soup, shall we?

Genetics deals with the amazing instruction manual inside every living cell that is packed with gigabytes of information telling proteins how to construct, reproduce and maintain themselves in every living thing. This is an amazing amount of information that has an almost indescribable level of complexity. If you believe (as I do) that an omnipotent Being designed all this, in essence "miracle-d" it into existence to satisfy His own creative nature, and that this unbelievable level of complex and delicately balanced information which functions in a way that makes even the most sophisticated symphonic composition or the most impressive engineering feat in human history seem as the scribbling of a child with a fat crayon, then only through faith will it make perfect sense to you.

However, the bulk of the scientific community today looks at this and sees a purposeless result of eons of time combined with impossible odds and natural selection. The scientific field of Genetics is the study of genes, heredity, and variation in living organisms. Genetics deals with the molecular structure and function of genes, examining patterns of inheritance from parent to offspring, gene distribution, variation and change in populations. Given that genes are universal to living organisms, genetics can be applied to the study of all living systems: Bacteria, Viruses, Protozoa, Fungi, Plants, Animals and Humans.

The science of genetics began with the work of Gregor Mendel in the mid-19th century. The science as we understand it today speaks of ribonucleic acid (RNA) and deoxyribonucleic acid (DNA), and how this microscopic double helix fashions proteins into life. This was first discovered by James Watson and Francis Crick. They presented this finding in a scientific paper in April of 1953 describing the structure of the DNA-helix. In this paper they said, "This structure has novel features which are of considerable biological interest." This is probably one of science's most famous understatements. Nine years later, in 1962, they shared the Nobel Prize in Physiology or Medicine with Maurice Wilkins, for solving one of biology's biggest riddles. Half a century later, important new implications of this great discovery are still coming to light, not the least of which is where did all of this complex information come from?

Every single aspect of every living thing is dictated by this instruction manual, and within each species is an amazing adaptive mechanism contained in that genetic code that enables it to adapt to its environment. (read micro evolution). The genetic information does not change—it is just that certain attributes are turned on or off to suit the environment. It is amazing how the descendants of primordial ooze can do such adaptive intelligent things, but even more amazing is that it is commonly held that this is a product of chance. It seems to me to be an act of blind faith, to believe this all to be pointless happenstance. This process can clearly be seen in the human race with its wide diversity of appearance (contained in less that .001% of our DNA) which can be attributed to multiple generations living in the same regions over long periods of time (thousands of years) giving us lighter skin and straighter hair in colder darker regions and darker skin and curlier hair in hotter, brighter regions. The Human Gnome project took 13 years to map the composition of human DNA, identifying approximately 20,000-25,000 genes, determined by the sequences of 3 billion chemical base pairs. While this large project identified all the parts, we are still largely ignorant of the function of over 97% of this genetic material. This used to be called Junk DNA, because we do not know what it does so we assumed it had no function. However, there is increasing evidence that there is no junk DNA at all. In recent years, it has been found to have various roles. This means that this so-called "non-coding DNA" influences the behavior of the genes, the "coding DNA," in important ways.

We are just about done with our tour of the biology wing of the institute. I think we will wrap things up in the next lesson with a brief discussion on the topic of natural selection and some thoughts on anthropology.