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URANTIA

Scientific Confirmation of the Number of Trait Carriers

I recently saw a sentence in the Urantia Book (on page 397C), which reads as follows: ... "The differing orders of will creatures are configured as 12, 24, 48, 96, 192, 384, and 768. On Urantia there are forty-eight units of pattern control - trait determiners - in the sex cells of human reproduction."

Due to my background in the field of genetics, I immediately became curious about this statement. For some time I have known there are 46 chromosomes in human cells, and of course I equated chromosomes with trait carriers. Then I looked up the information given in The Concordex and discovered that their interpretation of this sentence is the same as mine was initially. Inasmuch as molecular biologists have determined there are only 46 chromosomes in somatic cells and 23 in gonial (sex) cells, I began to wonder about this information. After all, the electron microscope has definitively given us proof that there are only 46 human chromosomes.

After doing some research I believe I have found an answer to the problem brought on by this inconsistency. In normal human cells there are 46 chromosomes - 22 pairs are referred to as autosomal chromosomes and the other two are referred to as the sex chromosomes ($22 \times 2 = 44 + 2 = 46$). This accounts for the 46 that are found in the normal cell. However, this has very little to do with what the Urantia book says about 48 trait carriers in the sex cells.

In the gonial cells of material creatures, there are 22 autosomes (one of each pair), and 2 sex chromosomes, adding up to 24 unique chromosomes. In 1953, there was a discovery made by Drs. Watson and Crick, of the Biophysics Research Unit, Medical Research Council, King's College, London, which proved a theory known as the Double-Strand Chromosome Theory, through the use of X-ray diffraction. Namely the molecular structure of every chromosome is a double helix. In addition the double helix is structured such that each strand is different than its associated strand (1). Thus, there are 24 unique chromosomes, each comprised of a unique double stand.

In gonial cells where reduction division has taken place (one of each of the 23 pairs is excluded during cell division) only one of each of the pairs is present. In the human male there is either an X-bearing sperm or Y-bearing sperm, plus the full complement of 22 autosomes. Add this all together and you have:

$$\begin{array}{r} 22 \times 2 = 44 \quad (22 \text{ autosomal chromosomes time the double strand}) \\ 1 \times 2 = 2 \quad (\text{the X chromosome times the double strand}) \\ 1 \times 2 = 2 \quad (\text{the Y chromosome times the double strand}) \\ \hline 48 \quad (\text{the total number of trait carriers}) \end{array}$$

Put simply it can be stated: there are 24 unique chromosomes - 22 autosomes, the X chromosome and the Y chromosome. Each chromosome consists of a double strand, thus accounting for the 48 trait carriers.

Therefore, all we have here is a problem of semantics. The Urantia Book is correct, once again, and Urantia scientists have confirmed this!!!!

(1) Herskowitz, Irwin H., Genetics, Little, Brown and Company, 1962, pp. 310.

Presented By: Lynn E. Van Matre
2759 Hearthwood Lane
Colorado Springs, CO 80917

*Participates strongly in 20 member
study group in C.S. and has for some time.*