each cell, by 159,000, I get about 38,000 dictionaries needed for six billion entries. If we stacked these 38,000 dictionaries, they would be over a mile high. A dictionary is somewhat of an apt comparison because each entry appears in alphabetical order. Likewise each nucleotide is in its own precise location and order. However, typographical errors in a dictionary could probably be fairly easily recognized and corrected by an intelligent reader; on the contrary, as those familiar with computer programming will be able to testify, "typographical" errors in code (like DNA) can easily be catastrophic. Also, like computer code, DNA programs for complicated processes, and any error in logic would cause the whole system to fail as well.

How could life which is so incomprehensibly complex and organized happen by chance and not by design? Belief that naturalistic, materialistic processes assembled all of life as we know it is a fantasy at best.

Given the enormous scope of coordination and the extreme magnitude of genomic intricacy, common sense tells us that life on earth could not have happened by chance. When the theory of evolution came out in the 19th century, no one, including Darwin, knew how complex life and its DNA really are. Now we know, and we have to look at the origin of life and at the molecules-to-man evolutionary hypothesis in the light of these new facts. Textbooks, schools, museums, and media should not have taught as fact what was only conjecture. Let us stop believing, writing, teaching and acting as if creation happened by chance. What we observe has the fingerprints of our Creator God all over it.

The invisible qualities of God ARE clearly revealed in the things He has made. (Romans 1:20)

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The Kolbe Center aims to equip Catholic evangelists with a decisive advantage in the third millennium by rooting their apologetics in the true Catholic doctrine of creation, supported by sound arguments from theology, philosophy and natural science.

Once persuaded of the bankruptcy of molecules-to-man evolution and of the reasonableness of special creation, the practical atheist will be able to hear the Gospel of Jesus Christ and the claims of the Catholic Church.

I cannot believe that man is only a perfect monkey. This is the question of evolution . . . A mountain of acute criticisms has been published on this subject; but the more books they write the more complicated the problems grow. This theory not only does not agree with the results of today's experimental science, which is in constant progress, but in reality it contradicts these findings, as has been carefully documented . .

(St. Maximilian Kolbe, O.F.M. Conv. Mugenzai no Seibo no Kishi (July 1934, pp. 194-197).

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DNA, Fairy Tales, and Chance

By Helen C. Dickey

The Kolbe Center For The Study Of Creation

DNA, Fairy Tales and Chance

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When the molecules-to-man evolutionary hypothesis and the spontaneous-origin-of-life hypothesis came out, no one understood the nature or complexity of DNA. Now natural scientists are beginning to understand.

To find out what the minimum DNA genome might be for a single-cell that can autonomously self-replicate, scientists studied the genome of the species Mycoplasma mycoides, a parasite, and one of the smallest bacterial cells known, normally having a genome of about 1000 genes (with around 1,100,000 nucleotide base pairs) depending on the strain[1]. Other bacteria, such as E. coli, may have 4,000 to 5,000 genes.[2]

These scientists essentially knocked out all genes that weren't totally necessary for the bacteria to survive and replicate in a controlled environment and determined that this stripped down cell, with 473 genes, dubbed "JCVI-syn3.0", constitutes the simplest possible living organism. Thus, a cell with 473 genes appears to be about as streamlined as a cell can be and still survive, albeit in a glucose culture, allowing evolutionists to imagine what a "primitive" cell genome may have looked like.[3]

(It is important to note that a gene encodes for a function. Each gene is composed of a particular sequence of "nucleotides" which are four types of "chemical letters" that tell little molecular machines in the cells of living things how to assemble amino acids which are necessary for the construction of the building blocks of the bodies of all kinds of plants and animals.)

In this stream-lined cell, it is unclear what 149 of these genes do. 70 of them can be broadly classified but the role they play is unknown. The function of 79 of them is a complete mystery.[4]

The complete genome of JCVI-syn3.0 is composed of 531,560 nucleotides.[5] (Note that these bacteria are parasites, so they could not live without a host. This number is realistically too small for a true stand-alone cell, but it will be used here for argument's sake.) To get an idea of the complexity of a sequence of 531,560 nucleotides, imagine filling an 8.5 x 11" page of paper with the precise nucleotide sequence, 3000 characters per page with no spaces; this would take 177 pages of perfectly sequenced, error-free data (since with a minimalist genome, even a single error will almost certainly render the entire genome inoperable).[6] There have only ever been two ways nucleotides have been observed to be sequenced in this way: 1) in an already functional, living cell, or 2) by intelligent intervention. It is inconceivable how such a nucleotide sequence could arise otherwise.

To visualize this number of nucleotides (531,560), think of small seeds and tweezers. Imagine counting half a million seeds by hand, lining them up, four different kinds, seed by seed, in a precise order, without a single error since with a minimalist genome, one error will render the cell non-viable.[7] One might also imagine assembling 531,560 pieces of four-letter code in such a way as to provide a specific set of instructions to carry out a variety of complicated tasks. This 531,560 is not a small number and it is especially hard to believe that such a huge number of nucleotides, all in a precise working order, could have ever lined up by random chance, along with all the other complicated parts of a cell.

In the most basic, simple cell, millions of molecules, thousands of amino acids, and hundreds of genes would have had to spontaneously assemble in exactly the right positions in order for the cell to function at all. The amount of time needed for such a spontaneous assembly is incalculably great. The chances that all the working combinations would come together harmoniously is astronomically small because a so-called "primitive" cell that can reproduce is inestimably more complicated than most people think.

Nevertheless, we are told that the first living thing spontaneously generated in some warm little pond somewhere. This story, which is not based on any evidence whatsoever, stands in absolute contradiction to the most fundamental scientific law of biology, the law of biogenesis—that "life can only come from life". Nothing even remotely as complex as a self-contained, self-replicating cell has ever been observed to have arisen spontaneously from non-living chemicals in any environment, even a lab-controlled one, let alone in the hypothetical changing, hostile environment we would find in nature, where water would serve to break apart any of the organic molecular chains necessary for life.[8] Life made by chance in some "warm little pond" sounds like a fairy tale.

Now let us take a look at the complexity of human DNA: According to NIH studies, the human genome, in each cell of our body, has an estimated 20,000 to 25,000 genes carrying 3 billion bits of information.[9] (Their "bit of information" is obviously a nucleotide.) Most of our cells, however, are diploid which means they contain one strand of DNA from the father and one from the mother, meaning there are actually over 6 billion bits of information in each cell.[10]

My neighbor has a beautiful 30-year-old maple tree in his front yard which gets plenty of sun. It is more than twice as tall his two-story house and about twice as wide. This large tree might have about 1,000,000 leaves.[11] To get some concept of six billion, let us compare it to the same maple tree. Six billion divided by 1,000,000 leaves shows us that if each nucleotide in a human cell corresponded to one leaf on a large maple tree, we would need 6000 trees to cover all the nucleotides.

My two-inch thick *Webster's New World Dictionary* brags about having over 159,000 entries.[12] If we think of each entry corresponding to one nucleotide then we can divide 6,000,000,000 which is the approximate number of nucleotides in