Quest for a Creatorless Origin of Life - 17

No Lefties, Please - As it happens, the living cell is very choosy about which right-handed and left-handed building block biochemicals it will make use of. It almost always prefers the right-handed sugars over the left, but chooses the left-hand amino acids over right. To illustrate how this would affect the structure of DNA - the presence of a mixture of left and right forms of the sugar building block molecules would disrupt the normal spiral form, so that it could not function correctly.

When life's building block chemicals are made in the lab they produce equal parts of left and right-hand forms. This leads to the expectation that if the "primordial soup" contained sugars and amino acids, then there would be mixtures of left-hand and right-hand forms of both these kinds of building blocks.

That being the case, a knotty problem looms up for the evolutionist - how could random chemical activity successfully select right-hand sugars, while rejecting the left-hand ones, while selecting the left-hand amino acids and rejecting the right handed ones - to spontaneously generate a living organism?

Various suggestions have been made. Some natural radiation is polarized in one direction only and could affect the proportion of left and right-hand chemicals which would be involved in a reaction. But calculation has shown that the effect would be too small to have a significant effect.

Another idea was that crystal surfaces which favour one or the other handedness were involved in the first formation of life. The conclusion? "Perhaps this was the way." Such an answer is a far cry from a repeatable lab test which would faithfully select the various sugars and amino acids.

Living organisms have several main characteristics - they can grow, they can adapt to their environment, and they can reproduce. So if life was spontaneously generated, as non-creationists believe, then it should be possible for scientists, beginning with the basic biochemicals, to create self-replicating molecules in the lab. They may not necessarily be alive, but producing them could demonstrate an early stage in the spontaneous occurrence of life.

One attempt in the lab produced the self-replication of a chain of 32 amino acids, a peptide. This was merely a demonstration of the principle. It required a continuous addition of two fragment peptides, one which was 15 and the other 17 amino acids long. It has not been shown how such a scenario could exist outside controlled lab conditions.

A similar effort in a lab produced a strand of six building blocks of DNA. It was able to make exact copies of itself when fresh building block chemicals of the right kind were added to the solution. The processes which occurred in the two tests could not apply to the spontaneous occurrence of life. This is because in neither case is there any scientific reason to expect that the building blocks needed for these reactions could naturally occur.

Another approach was by chemist Christian de Duve, who had noted the role of certain compounds containing sulphur, in biological processes, particularly in the case of ATP, a key molecule used in the processes of photosynthesis and cellular respiration. He believed that the early earth was more volcanic than now, which would be issuing large quantities of hydrogen sulphide and iron sulphide, which could have been involved in producing a living organism.