Evolution 101

Lesson 21

Irreducible Complexity

Michael Behe, a well-known bio-chemist, explains in his acclaimed book **"Darwin's Black Box"** about the irreducible complexity of isolated systems, either living or nonliving, with an illustration of a mousetrap.

The mousetrap has five isolated parts. The mousetrap will not function if just one of the isolated parts does not function. The missing part could not be restored via a mutation in one of the other parts. Clearly, an external engineer is necessary to organize each isolated part into a complex trap. Even then, a complete mousetrap is not "alive" until the hammer has been set. This also requires an engineer external to the mousetrap.

It is no different with an assem-blage of amino and nucleic acids form-ing proteins and DNA in the cells of an animal. These molecules form multiple thousands of isolated chemical ma-chines that must be organized by an external agency before the cell can function as a whole. There is an irreduc-ible level of complexity below which the cell will not function. Each sub-system in a cell is analogous to an isolated part of a mousetrap. The com-plexity must be provided by an external engineer or designer.

To describe how futile it is to rely on random chance to assemble complex systems, the following quote is taken from the book**, "A Theory in Crisis"** (p.328) by Michael Denton, a micro-biologist:

"Perhaps in no other area of modern biology is the challenge posed by the extreme complexity and inge-nuity of biological adaptations more apparent than in the new molecular world of the cell.

"Viewed down a light microscope at a magnification of some several hundred times, such as would have been possible in Darwin's time, a living cell is a relatively disappointing spec-tacle in appearing only as an ever-changing and apparently disordered pattern of blobs and particles which, under the influence of unseen tur-bulent forces, are continually tossed haphazardly in all directions. To grasp the reality of life as it has been revealed by molecular biology, we must magnify a cell a thousand million times until it is twenty kilometers in diameter and resembles a giant airship large enough to cover a great city like London or New York.

"What we would then see would be an object of unparalleled complexity and adaptive design. On the surface of the cell we would see millions of openings, like the port holes of a vast space ship, opening and closing to allow a continual stream of materials to flow in and out. If we were to enter one of these openings we would find ourselves in a world of supreme tech-nology and bewildering complexity. We would see endless highly organized conduits branching in every direction away from the perimeter of the cell, some leading to the central memory bank in the nucleus and others to assembly plants and processing units.

"The nucleus itself would be a vast spherical chamber more than a kilometer in diameter, resembling a geodesic dome inside of which we would see, all neatly stacked together in ordered arrays, the miles of coiled chains of the DNA molecules. A huge range of products and raw materials would shuttle along all the manifold conduits in a highly ordered fashion to and from all the various assembly plants in outer regions of the cell.

"We would wonder at the level of control implicit in the movement of so many objects down so many seemingly endless conduits, all in perfect unison. We would see all around us, in every direction we looked, all sorts of robot-like machines. We would notice that the simplest of the functional com-ponents of the cell, the protein molecules, were astonishingly complex pieces of molecular machinery, each one consisting of about three thou-sand atoms arranged in highly org-anized 3-D spatial conformation. We would wonder even more as we watched the strangely purposeful ac-tivities of these weird molecular machines, particularly when we realized that, despite all our accum-ulated knowledge of physics and chemistry, the task of designing one such molecular machine—that is one single functional protein molecule—would be completely beyond our capacity at present

and will probably not be achieved until at least the beginning of the next decade or so. Yet the life of the cell depends on the integrated activities of thousands, certainly tens, and probably hundreds of thousands of different protein molecules."

Complete Cell Is Not "Alive"

Once all of the vast array of com-plex machines are in place, the cell is still not "alive." Life does not just appear when the physical conditions are right. The Law of Biogenesis is still a barrier. This law demands that ***"life comes from life."*** Life must come from an external engineer, designer or meta-physical cause who is alive! An external engineer sets the mousetrap and also creates the life or meaning to "ride" on the cell organization.

This paragraph has "meaning" because of an external cause, this writer. A biological cell has meaning (life) riding on it because of the engineering or design attribute of an external or transcending metaphysical entity called God by Christians.

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