

What is required to produce cars at Toyota?

Raw materials/parts, specialized machines, precise electrical power supply, information/instructions, people and/or computers that can understand the instructions and then have the skills to accomplish them.

What was required for the first living organism?

Raw materials, specialized machines to assemble the raw materials, a power supply (ATP), accurate instructions (DNA) for the correct assembly of the chemicals, some kind of computer like device that could understand the directions and communicate them to the machines (RNA) capable of accomplishing the tasks.

A computer has three main components: 1) hardware - the intelligently designed physical components. 2) Software - intelligently designed to work with the particular hardware. 3) Information - intelligently composed and entered for the hardware and software to process. Like a computer, DNA stores information, but that doesn't explain how the information gets in the DNA in the first place. A computer does not compose the information, nor write the program that processes it. Information is separate from the DNA just like the information of a novel or a scientific paper is separate from the ink, paper and printer that makes the book. As amazing as DNA is, it is not as amazing as the source of the information it processes.

We now know that even if there was a perfect mixture of every necessary chemical, and in a perfect environment, **life would never form by chance. The most essential ingredient is not chemicals, it is information** – biological information. Richard Dawkins acknowledges “*The difference between life and non-life is a matter not of substance but information. Living things contain prodigious quantities of information.*” *The Greatest Show on Earth*, Free Press, New York, p. 405, 2009.

**information does not come from chemicals. It is neither matter nor energy**, (A cell phone does not get heavier when you take pictures or download songs.) though it (information) is transmitted through matter and energy. Even if ink spills produced letters of our alphabet, and some of those letters by chance spelled “words” they would be meaningless unless someone understands the words, grammar, syntax, of the language they are in. **Information, not chance, is the key to life.**

There is an obvious difference between writing of this paper versus a random sequence like WDLMNLTDTJBKWIRIOUX and a repetitive sequence like ABCDABCDABCD. The latter is an example of order as in crystals, but not an example of specified complexity. **Randomness is the antithesis of information.** The carved heads of the U.S. presidents on Mt Rushmore are clearly different from erosional features. The information content of living things is far greater than that of Wikipedia. Dawkins says: “*There is enough information capacity in a single human cell to store the Encyclopaedia Britannica, all 30 volumes of it, three or four times over.*” *The Blind Watchmaker*, p. 115 If it is unreasonable to believe that all the information in Wikipedia could have originated without intelligence, then it's just as unreasonable to believe that the information in the cell could have originated without intelligence.

Dr. John Oller, an expert on language acquisition, shows that biological information systems, like the information that can be expressed in natural languages (English, Chinese, etc.), depends on a deeply layered hierarchy of inter-connected sign systems. The signs at the highest rank are richest in content. For instance, starting at the lowest rank, there are 26 English letters, but hundreds of thousands of English words, and innumerable possible English sentences, which can be combined into paragraphs, chapters, books and volumes. In order to create (or discern) meaning at higher and higher levels of language requires more and more intelligence. As we move up the language hierarchy, (to something like a novel or a science textbook) the requirement for the operation of intelligence does not increase linearly - it increases exponentially.

Significance: Language is arguably the strongest single evidence for the presence of intelligence. The information and language in living cells is more advanced than anything else known to man. To attribute that information and language to chance would be contrary to everything we know from science.

## DNA

The human genome contains approximately 3 billion letters - and all of them have to be in the correct order for the whole message to be read. If there are duplications, deletions or substitutions it degrades the message, just as it would in a computer program.

Video of Jay Seegert -

Letters (amino acids) = nucleotides

Words = groupings of 3 nucleotides

Chapters = Genes = thousands, tens of thousands of nucleotides

Volumes = Chromosomes = thousands of genes

Set of Encyclopedias = Genome

- The 3 billion letters of information in DNA is not only read “front to back” but entire “chapters” can be read “back to front” with a separate message! Like a smart phone manual, with instructions for something else when read backwards.
- It also has entire chapters of “overlapping instructions” for separate functions. (“I like chocolater that evening”) These overlapping codes represent a type of data compression that computer scientists can only dream of.
- It has segments within sentences and paragraphs with yet another message.
- It also has separate messages “embedded” at regular intervals – 8<sup>th</sup> or 9<sup>th</sup> letter.
- Some messages are encrypted, like a secret military code. This requires a separate encryption code, language and capacity to decipher that particular code!
- There are also 3-D messages read from the way proteins are folded. (Chaperonins prevent new shapes of proteins, which would limit evolution.)
- And there is a separate non-DNA based communication system between the information in the nucleus and the outer wall of the cell. In addition to the membrane code, there is a splicing code, methylation code, histone code, epigenetic code, and more. Neo-Darwinian theory cannot explain these newly understood information systems.
- If there was a mistake/mutation in any location it would likely destroy multiple messages.

DNA is fantastic, but it is also very fragile and every cell experiences something like 1 million lesions/breaks a day. These mistakes/mutations are the cause of over 2600 diseases and the reason we age and die. We would all be dead in a day if it were not for over 130 repair genes in the DNA. But the instructions to build those repair genes are contained in the DNA and they had to be present from the first day of the first DNA. No one believes they could have evolved independently and been included at the moment of the first DNA.

And for repair genes to work, or any other functions to work there must be **ATP synthase**, which is the world's tiniest, most efficient, most numerous and most important electric motor. There could be no life in a cell without this motor, and yet the instructions for this motor are contained in DNA, which cannot function without the motor, which also had to be present at the beginning of the first cell.

**Enzymes** cause a reaction in a cell in 1/100 of a second which would take a billion years without it. They are also made by instructions in the DNA and had to be present from the very beginning. Life could not begin one part at a time. All the parts had to be present from the beginning.

Evolutionists frequently say we share 98% of our DNA with chimps, (newer studies show it is closer to 75%, but for now we will assume it to be true). PBS said this represents only "a couple spelling errors". But 2% difference of 3 billion would require 60 million random errors (equivalent to 50 books of 200 pages each, all positive, and none of them destroying information in any of the overlapping, embedded, etc codes) to change from a chimp to a human.

But even if that could have happened it creates another problem - there has not been enough time to do that. Those 60 million beneficial mutations must arise and advance all the way to **fixation** (the original "letter" in that location lost completely) along with tens of thousands of chromosomal rearrangements. J. B. S. Haldane, the father of modern population genetics calculated that no more than 1667 beneficial mutations (which is less than one average size gene) could have occurred in the supposed 10 million years since the last common ancestor of apes and humans, even assuming a small population and one beneficial mutation per individual per generation.

\*\*\* **Link to fantastic video** of Dr. James Tour, speaking on "The Mystery of the Origin of Life". Eight minutes of intro (interesting) but then the main talk. You won't understand all of it, but you will be 100% convinced that life did not form by chance. <https://www.youtube.com/watch?v=zU7Lww-sBPg>

Questions for next week: Genetics

Evolution says mutations are THE mechanism for all changes that have led to complex life. What do mutations actually do? Can you identify some "good ones"? Do we see evidence of any organism developing new traits? Why do we age and die? Can that be stopped?

