

Needed: A Designer

If self-ordering forces were inherent in matter, life would arise inevitably whenever the ingredients were available in the correct proportions. But it does not. On the contrary: to obtain even *random* mixtures of amino acids or nucleotides, huge amounts of information must be added to the experiment.

What does it mean to say information is added? In origin-of-life research, a genuine simulation of chance and natural forces would be an experiment in which the ingredients were simply placed in a vat and mixed together. But no one does that, because nothing comes of it. Some products may form, but, as in nature, they soon break down again.

Instead, to obtain even random mixtures of amino acids or nucleotides, the scientist must constantly "nudge" the experiment in the direction he wants it to go. First, he begins with pure ingredients (in a natural situation, no pure chemicals would be available). Not only that, he begins with certain *proportions* of the chemicals, which tips the scales toward the desired reactions.

Then, at each stage, he isolates the products and removes them from the reaction area so they won't break down again into their initial components. He purifies the product, changes concentrations, changes temperatures - all these things tip the scales in favour of certain reactions occurring. In this way the scientist "coaxes" his materials down the chemical pathways necessary to obtain a desired result.

By controlling the conditions which tilt the reactions in the desired

direction, the scientist is putting constraints on the experiment. He is limiting the "choices" at each step of the way. Which is to say, he is adding information. To obtain even the very minor results scientists have come up with so far - which fall far short of living DNA or protein - significant amounts of information have to be injected into the experiment.

What can we conclude from this? I submit that we are back to the argument from design in a more sophisticated form. With the insights from information theory we need no longer argue from "order" in a general sense. Order with low information content (the first kind) does arise by natural processes. But there is no convincing evidence that order with high information content (the second kind) can arise by natural processes.

It should be noted that scientists are able to synthesise proteins suitable for life if they want to (e.g. insulin for medical purposes). But they don't do it by simulating chance. Only by highly constraining the experiment can they produce proteins like those found in living things. Only by injecting high levels of information do they obtain high information-bearing molecules.

The Present As The Key To The Past

Producing a protein or DNA molecule is like building and programming a computer. The only way we know to produce this kind of order is through human intelligence. If we want to speculate on how the original molecules came into being to support life, the most reasonable speculation is that there was some

other kind of intelligence around at the time. In other words, we are coming round full circle to the argument from design.

This kind of reasoning is exactly the same kind we use all the time in science. It is called the principle of uniformity. When we see effects that are similar, we infer their causes were similar. The idea is often encapsulated in the phrase, "the present is the key to the past." The design argument is really a special case of the principle of uniformity.

When an archaeologist finds an ancient artefact, for example, he recognises its similarity to modern human artefacts. He concludes, quite correctly, that it was made by human beings. Even though he has not seen those human beings for himself, he infers they must have existed.

By the same token, if an astronomer were to pick up a radio message from outer space, he would immediately conclude it was sent by an intelligent being. Even though he has never seen an extra-terrestrial creature, he realises that kind of signal can only be sent by an intelligent being.

In the same way, we note that the structure of protein and of DNA has a high information content. We recognise its similarity to information generated by human intelligence (like poems and computer programs). Furthermore, we know of no other source of information - efforts to produce information-bearing molecules by chance or natural forces have failed. Therefore, we may properly infer that the source of information on the molecular level was likewise an

intelligent being. Even though we have not seen the Creator, nor observed the creation, we recognise the kind of order that only comes from an intelligent being.

Note that the argument from design does not lead exclusively to the God of the Bible. It leads to an intelligent creator, but does not specify which one. The creator could be the God of some other

religion - or even a superhuman being somewhere in the space, like the cosmic creationism of Sir Fred Hoyle. (Of course, that only pushes the ultimate origin of life back another step and we would ask, who created *that* being, and then who created his creator, and so on, until we come to some transcendent and self-caused being who began it all.)

The argument from design does, however, succeed in showing that the existence of the biblical God is plausible. It shows that the God of Christian teaching is a plausible explanation of the origin of life. That's more than can be said for any naturalistic account of life's origin.

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