NATURAL SELECTION PLUS…?

by Dr Jon Garvey, MA, MB, BChir.

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Possible explanations for life

There are really only two possible explanations for the origin of life as we know it. Either it was created in some way by a superior intelligence, or it evolved gradually by natural processes (that is, it was created by random forces). Every existing view comes into one of these categories, or some combination of the two.

The idea of the evolution of species was around long before Charles Darwin. The distinctive thing about Darwin's theory was that it suggested a reasonable mechanism for evolution - the process of *natural selection*. This is often presented as *the* mechanism of evolution, but it is in fact only *half* a mechanism.

Selection not enough on its own

Darwin himself noticed the variation between individuals of a species, and proposed that, just as humans select desirable characteristics to breed from, so the natural environment will tend to favour the survival of those best suited to it. Darwin assumed that such variation between individuals had no natural limitations, so that a continuous and progressive evolution results, though he had no idea of how such variations happened.

That natural selection occurs is beyond doubt. The famous case of the light and dark forms of the peppered moth is an example. The light form was largely replaced by the dark during the industrial revolution, when it was better camouflaged against sooty trees. Now the air is clearer, the light form is more common. Because natural selection makes such "choices" between individuals, it is reasonable to use the analogy of intelligence for the process. You could liken it to the panel of judges for the Booker literary prize, who from a selection of novels choose the one they consider the best.

But although it provides an "intelligent" way for nature to make choices, natural selection is only a selective process. It has absolutely no creative potential. Just as the Booker prize panel can only judge what some other creative people have written, so natural selection can only favour individuals produced by some other creative process. If by some mischance there were no good novelists around, the panel could sit forever and never find anything worth selecting. Evolution must have a creative mechanism as well as a selective one, or it will not occur.

So Darwin only really proposed half a theory - a selective mechanism without a creative mechanism. It was only later, after the monk Gregor Mendel had started to unravel the science of genetics, that such a creative mechanism was suggested - genetic mutation. Mutation, it was acknowledged, was likely to produce detrimental changes far more often than beneficial ones. But given an enormous geological timescale of billions of years, mutation ought, it was said, to provide the kind of raw material (or rather, processed material) necessary for evolution by natural selection.

Mutation as the creative process in evolution hasn't had a smooth ride in science. For many years, it fell out of favour because it was thought to be such a blunt, destructive instrument that it could never account for the complexity we see in the living world. But after a while, it was reinstated for no better reason than that nothing else could be found to replace it. This remains the situation today.

A thought experiment

But let's take a look at just how adequate mutation is as the creative mechanism of evolution. We'll undertake a "thought experiment", in which we'll imagine our Booker prize panel engaged in judging the literary merits of whatever books are set before it. Their ultimate aim, though, is the perfect novel - something as complex and deep as War and Peace, say. This novel represents the complexity of living organisms as we see them today.

Let's start off by giving the panel a copy of Janet and John, which was the first book I ever read. This they accept as being literarily correct though very simple. In evolutionary terms, it is adapted to its environment. We'll leave aside the question of how Janet and John came to exist in the first place, in the absence of an intelligent writer, just as evolutionists really have no answer to the question of how the first simple organisms came to exist. We'll simply note in passing that though substances similar to ink and paper are seen to exist in nature, there is a vast gulf between that fact and the writing of even a simple work like Janet and John.

Now we'll try to invent a creative process as indiscriminate as genetic mutation. We'll entrust the book to a number of illiterate people to copy, in the same way that the blind chemical processes in living cells are set to copying the genetic code. The DNA in genes is not unlike a book. It has letters (the individual nucleic acid bases), words (the sequences of bases which represent individual amino acids), syntax (the gene sequence) and meaning (the resulting protein cell structures).

Like the cell chemistry, our illiterate copyists are pretty efficient in their way, but prone to occasional mistakes corresponding to mutation. Most of the time, then, they copy the sentence *Janet and John see the dogs* without any mistakes, and the Booker panel accepts their copies readily, if a little jadedly. But when a copyist does make a mistake, what sort is it likely to be?

Being illiterate, he could completely mis-copy a letter: *Janet and 7ohn see the dogs*. All such mistakes would, of course, be instantly rejected by the panel.

He could alternatively substitute a real, but different letter (one which occurs on other pages of this great work!): *Janet bnd John see the dogs*. Again, most of these would be rejected, but very rarely the result might make sense: *Janet and John see the logs*. This being accepted by the panel, we have our first example of evolution!

Our copyist could accidentally leave a letter out: *Janet and Jon see the logs*. This evolves a different character in the story, though without much real advance in the plot. Perhaps he now forgets to leave a space between words. This again would normally lead to rejection, but in our example one such mistake could (barely) be regarded as acceptable: *Janet and Jon seethe logs*. We may well wonder at their attempts at cooking, but at least it's evolution!

The other main type of error would be the reduplication of words, or even whole sentences. *Janet and Jon seethe logs. Janet and Jon seethe logs* might perhaps be accepted as an emphatic statement, though not much of an advance on the original. Perhaps by some quirk, we could imagine the cross-breeding of two variations resulting in a more complex story: *Janet and Jon see the dogs seethe logs.*

But at this point, we begin to realise that with this raw material there is very little farther we can go. However long our illiterates go on copying, and however many mistakes they make, there seems virtually no possibility of the story ever progressing beyond the tale of the children who see some dogs boiling wood. Most likely the copyists will simply keep making the same mistakes over and over again, with no overall change in the small number of "acceptable" variations. There is simply no way in which Janet and John will evolve via a series of stages into War and Peace. Even if the Booker prize panel sat for a billion years, the same thing would be true.

There are some unlikely possibilities which become more likely with time. For example, it may be exceedingly rare for a comet to hit the earth. But with a large number of comets in random orbit, the risk of its happening would become almost inevitable if you waited long enough.

But other things are so improbable that you can virtually discount them ever happening at all, like Halley's comet making a soft landing at London Airport.

It would seem that for illiterate copyists to produce a major novel from Janet and John by mistake is just such an improbability. And yet the creative mechanism proposed for evolution, mutation, is an even blunter instrument than an illiterate copyist. And when you consider the infinitely greater complexity of a living organism than a novel, and the massive variety which needs to be accounted for within the living world, then mutation begins to look a very unlikely mechanism indeed.

What about the facts?

The evidence from science supports this thought experiment. Mutations have hardly ever been shown to be anything but destructive. On rare occasions they may produce variations which are of interest to people (such as double flowers or grotesque fruit-flies), but which are of no survival value whatever. And there has never been an observed case of a mutation producing a totally new feature which wasn't already inherent in the gene.

What about the theory?

It's important to realise that without mutation evolutionary theory has absolutely no explanation of the origin of new species - the theory simply falls flat. Even if some other natural mechanism were suggested in place of mutation, the law of probability would be just as overwhelmingly stacked against it. It is vanishingly improbable that any random process of nature, even when controlled by natural selection, could build in the degree of complexity necessary to produce even the simplest of living organisms. As a scientist once remarked, the probability is akin to that of a tornado hitting a scrapyard and constructing a Boeing 747.

But in fact there is really not even a theoretical possibility of any mechanism other than mutation being discovered. The nature of an organism depends, we believe, on its genetic code. This can change by normal variation within the species, by recombining different elements within the gene pool. This mechanism can never create brand new features. Or secondly, the actual genes can change, which is only another word for "mutate". Geneticists have artificially developed a third way, that of introducing genes from another species (like genetically engineered corn). However, in evolutionary terms, such genetic engineering is only a particular mechanism of mutation, even if it were found actually to occur in nature.

What has been said refers to the commonest variation of evolutionary theory: "gradualist evolution" (or Neo-Darwinianism). But many modern evolutionists looking at the fossil record have concluded that it shows evolution did not happen gradually, but in a series of larger "jumps", with species staying constant for many millions of years, and then evolving into totally different species over the course of, perhaps, a few thousand years.

This may fit the evidence better, but a little thought will show that it is even more stuck for a mechanism of creativity than "ordinary" evolution, for that blunt-edged process, mutation, is now being asked to do things that are statistically almost impossible in just thousands of years, instead of billions: Halley's comet has to soft land at London Airport by next Tuesday!

What about creation?

A few evolutionists have tried to get round the problem of a driving force for evolution by the so-called Gaia hypothesis. This is not so much a scientific hypothesis as a statement of religious faith, which suggests that the earth itself (named after the goddess Gaia) has some kind of sense of purpose which drives life in the direction of increasing complexity. It gets as close as it can to describing creation without giving it that name.

But the hypothesis fails to give any answer to two very important questions about evolution: why and how? If, as it suggests, the earth is like the Hindu Brahma, alive but impersonal, amoral and non-rational, then why should it have any "desire" to produce a complex world? And even granted that it should want to do so, there still needs to be some mechanism by which it actually produces variations in living organisms. How does it do so, except by some vague influence of non-mind over matter?

And in any case, the hypothesis only drives the problem of creativity back one step from the living world to the material world. Who made Gaia's sense of purpose?

If this half-way house between evolution and creation is rejected, then one is only left with the Biblical model of creation (whether or not through some evolutionary mechanism) by a rational but totally supernatural God.His purpose in creating the world would match our own rational desire to create complexity and beauty. His means of creation would be by some supernatural process, which unlike the Gaia hypothesis poses no logical difficulty because, unlike Gaia, such a God would be outside of his universe and therefore not subject to its physical laws.

You could not prove such an idea scientifically, but this does not make it irrational. It is only unscientific because natural science is necessarily limited to the investigation of what is natural rather than what is supernatural. But as Sherlock Holmes said, "Once one has excluded the impossible, whatever remains must be the truth."

I started off by showing that the only possible explanations for the development of life are evolution or creation. I believe I have shown that the only commonly suggested mechanism for evolution, mutation acted on by natural selection, is well-nigh impossible because of the weakness of mutation as a creative force.

Unless science is able to come with a naturalistic explanation of the development of new species which is statistically more probable, and is consistent with the evidence which exists, then rational people must be forced to conclude that whatever remains - creation by God - is indeed the truth. And that raises far more questions about the world-view of our age than ever it answers.