

Evolution¹²

by

A.N. Prior

Let us jump from Newton and his offshoots to another scientific theory that has had a good³ deal of influence outside the particular scene that it belongs to. I mean the biological theory of evolution. I think, by the way, that if you want to hear something about this subject from a somewhat different point of view from my own, you'll be able to do so at 8 p.m. tomorrow night, where Fr.⁴ Duggan will be addressing the Newman Society on the subject.

Let's begin with certain facts that are common knowledge:

1. The earth is populated with a large number of living creatures and a large number of different species or kinds of living creatures.
2. All these living creatures have come into being as the offspring of other living creatures. At all events, we've never seen them coming into being in any other way. There is a possible exception to this, however. There are certain things so small that they pass through filters and can't be seen through microscopes, though some of them can be photographed through microscopes, by means of rays of shorter wavelength than visible light. These little things behave like living beings - nourish and reproduce themselves - and they are responsible for certain diseases in plants, animals and human beings. They are called filterable viruses. They include, I think, the flu germ (Arthur Amos) the one responsible for infantile paralysis. Some of them seem so small that they are just single molecules, though of course very large ones. Now certain substances with very large molecules, namely proteins, are obtainable in 2 forms - in what is called, I think, colloid form, and the form of crystals. And some of these viruses have been obtained in a crystalline form. (These crystals haven't been synthesized out of less complex substances - chemists haven't got that far yet - but viruses have been turned into crystals, so to speak). Now, I don't think we would normally call a crystal a living organism or a colony of living organisms. But dissolve one of these virus crystals, and off she

¹ This text has been edited by Martin Prior, David Jakobsen and Peter Øhrstrøm. The original MS is kept in the Prior collection at Bodleian Library, Oxford, Box 6.

² Some editorial notes: The text has not been dated. The original page numbers have been put in {...}. All underlinings in the text are Prior's. There are no footnotes by Prior in this text. All notes have been produced by the editors.

³ Alternative reading 'great'.

⁴ 'Fr.' stands for 'Father'.

goes again, feeding and reproducing and all that like an ordinary living germ. Well, if a virus is as living organism, a virus crystal is dissolved and the living virus appears, we could say that a living being has come from a non-living one, though of course, this non-living one comes from a living one. - Well, I just mention that is a possible exception to the rule that all living beings have come into being as the offspring of other living beings. The exception isn't important for our present purposes; but just to be quite accurate, we'll say that at least all living beings more complex than viruses have come into being as the offspring of other living beings.

3.⁵ No offspring ever completely resembles its parents, but every offspring always resembles its parents much, much more than it differs from them. There are, e.g. vast differences between one human being [2] and another even in the same family, but these differences fade into insignificance beside all the resemblances that make up our common humanity. And so we say that offspring are always of the same kind as their parents. This common observation is recorded in the Bible, where Christ asks: Can you gather grapes from thorns, or pigs from thistles? The process of grafting suggests a modification of this, but only a minor one – you can't even graft grapes on thorns or pigs on thistles; there has to be a pretty close resemblance between the plant grafted and the one it's grafted. And it's the same with selective breeding of animals. It only takes place within a species. You can mix a horse with a donkey and get a mule, but horses and donkeys are pretty close, and even then the offspring is sterile. We should note, though, that there's a bit of logical trouble about formulating this particular fact. We can say that though offspring always differ from their parents a bit, they never differ as much as to be a different kind of species. But how are we to tell when a difference marks off a different kind of species and when it marks off a variety within a species. (Dogs: Arctic grey wolf – Esquimoux dogs – Indian pariah dogs – jackal.)

Well, these are the main facts. And they suggest the question, How did these different kinds of living creatures come into being? Have the different species of living creatures always existed more or less in their present forms? This was a theory held by Aristotle, though he thought that certain very little creatures might be spontaneously generated from non-living ones by the heat of the sun. This view very common until the 18th century, 18th and 19th century, when use of microscope showed that the particular organs, thought to be spontaneously generated had come into being in the

⁵ "(Just No. 3)" added.

normal way. – would on bread⁶ and so on [Discovery of microbes very important here]. – But the question raised again today in new form by the views. – with regard to the theory that different species have always existed, this bound up with A's astronomy - with belief that the world, including the earth at its center, is eternal. This view has come under attack from 2 different quarters. (a) Christianity/the Bible interpreted as teaching that at some definite time in the past the world was created by God. (b) facts of geology suggests that at one time the earth was too hot for any nature to live on it. Fossils also suggest that more complex living creatures arrived later than less complex ones. – I don't know if anyone, a few pre-literate tribes, who know holds the theory that there have been the different species of animals. There are only 2 theories worth considering.

(1) Special creation – i.e. that God has from time to time intervened in natural process and placed new kinds of creatures on the earth. This view capable of variations, dependent upon the degree of interference believed in.

(a) If you'd been there you'd have seen in some corner of the earth where there was just air, a cow appear as it where from nowhere.

(b) If you'd been there you'd have seen solid but dead matter take on the form of a cow by a special remake.⁷ (The Bible, if taken in literally, suggests that this happened in the case of man).

(c) There might have been some divine interference with the processes of generation, so that an embryo that would normally have grown into a baby buffalo or something, instead grow into a baby cow.

On this last alternative the special creation theory begins to shade into the evolution theory that I'll go on to in a minute. But before doing so I just want to say something about special creation theories generally. The first thing I want to say is that science cannot disprove such theories. In that matter, science cannot disprove the theory that we were all created 5 minutes ago, equipped with illusionary memories at all. There is in fact a very good deal [3] that can't be proved or disproved.

The second thing I want to say is that special creation, though it's a sort of explanation of things that occur, isn't a scientific explanation; it's rather a confession of failure to explain a thing scientifically. We might say this about it because scientific explanation always involves reference to

⁶ Editors' comment: The idea seems to bet that microscopic organisms may turn up on old bread.

⁷ The word is a bit unclear.

a law according to which things happen, and special creation is above laws, or are all events above discoverable laws.

Now of course it's always possible that there are some things for which there isn't a scientific explanation. But it's always the scientist's job to keep on looking for one, unless he knows independently that there isn't one. If, e.g., it were divinely revealed that the different sorts of animals were specially created, and the scientists could see and know this, he'd just be wasting his time looking for other explanations – perhaps even then he'd have job of trying to ascertain the exact form the special creation took, if that wasn't revealed too. Now some people have held that it is revealed in the Bible that the different sorts of living creatures are specially created. I can't go fully into this here, but will just say one or 2 things about it. This theory that the Bible tells us that the different sorts of living creatures have been specially created depends on taking the first chapter of Genesis as literally true. And if you take the first chapter of Genesis literally true there are quite a lot of astonishing things you'd have to believe beside the special creation of the different sorts of animals. You'd have to believe, for example, that the earth was created before the sun, and that the heavenly bodies are sat in a solid framework called a firmament, with water above it that drips through when it rains. In fact, the scientific details of Genesis 1 seem to be just taken over without evidence from the scientific ideas that were current at the time it was written, esp. in Babylonia. And nothing in Genesis 1 suggests that we are meant to trust the scientific details in it as important – its importance lies in other directions. There's a great deal in Fr. Duggan's book on evolution that makes it quite clear that he doesn't accept Genesis 1 as literally true throughout.

There's another point to be made here. Opponents of evolution sometime say that there is no evidence for it because we've never see any species evolving from another species. That's true we can't. But on the other hand we've never seen any species specially created either; we've never seen any living organism come into being except as the offspring of another living being, and evolution squares with that find and special creation does not. (There's a possible exception of course in the case of viruses, but the case of sources⁸, as we shall see later, affects the theory of evolution, being just the sort of example that that theory would lead us to expect.)

⁸ The text is a bit unclear here.

Well what is this theory of evolution? It's this: as we have seen, though offspring always resemble their parents, vastly more than they differ from them, they always do differ from them a bit. And these differences may sometimes be progressive and cumulative from one generation to another, each divergence adding on to the last one, until in the end we have a creature that's of a different species from the one we started with. We'll consider first the evidence for this, and then some suggested explanations of it, and some of the difficulties involved in it, and some misunderstandings connected with it.