

Science and Religion

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I have a lifelong interest in mathematics and the insights it can give into physics, but following the wisdom of David Bohm, I prefer not to segregate mathematics and physics, which are so closely interrelated, nor set them apart from philosophy. I consider all these to be facets of the same attempt to understand the world. I have been strongly influenced by the work of Karl Popper and find it often useful to view all human knowledge as hypothesis. This includes all scientific knowledge about our world.

I do not consider science to represent or even seek out some universal ideal of truth, because I would not expect any of our present hypotheses to survive without significant refinement, or eventual replacement. I do think that the scientific method is well encapsulated by Popper's process of conjecture and refutation. Perhaps neuroscience will one day help us to understand how we conjecture. At the same time, I would not like to pass for one of Popper's instrumentalists. Presumably, if we are able to generate reliable knowledge (hypotheses) by the scientific method of conjecture and refutation, it is because this interplay is allowing us to ascertain something, probably approximate and certainly transformed, about the real world.

I leave truth to religions. It is their heaviest burden. As science gradually refines past truths, or rejects them, religions must adapt, something that is not at all in their nature. With Richard Dawkins and Daniel Dennett, I think it would be useful for individuals, but also the whole of humanity, to shrug off the notion of omniscient and omnipotent supernatural beings. The roles they were invented for by our ancestors could perhaps be fulfilled today by something more realistic that would lead to less extremism.

I am opposed to religious belief, indeed all belief. But it is important to respect people. I think it is more important to respect people than to respect ideas. I consider that ideas are an evolutionary discovery of animals, and in particular human beings, which has proliferated precisely because it allows animal life like ourselves to simulate and therefore test experiences without actually running the risk of living through them. In this sense, ideas are there for the express reason of not respecting them. They are designed to be put to the test, like Popper's scientific hypotheses. Even metaphysical ideas are to be put to the test by critical thinking and discussion. The statements here are just such an invitation.

Those with religious convictions reading this may wonder how I explain the

very existence of the wonderful universe we inhabit, or the existence of what we like to call intelligent human thought. My answer is that I make no claim to explain this. A little humility among human beings would be a good omen for their future. For the believer, there has to be an omnipotent supernatural being but I do not find that a useful hypothesis, or even an interesting one. It is ad hoc, and leads inevitably to the question of where the supernatural being itself came from, so it explains nothing.

By far the best hypotheses we have regarding the workings of the wonderful world around us, and our own existence, are those generated by Darwinian algorithms as described by Dawkins or Dennett and many others. The more we apply these hypotheses to specific problems, the more they explain, and the more reliable knowledge they generate. Does that mean that Darwinism will one day explain everything? I hope we do not need to make such an extreme claim in order to find it worthwhile to keep on searching, and understanding more and more.

It seems very unlikely, on the grounds of the Darwinian model itself, that mere human beings would ever be able to explain everything in any sense of the word 'everything'. According to this kind of hypothesis, we were (mindlessly) designed to understand what we needed to understand in order to be here today, and that is no guarantee that we could somehow understand 'everything', whatever that could mean. I thus baulk at the inappropriate arrogance of scientists who claim to be on the verge of a theory of 'everything' — or is that just reporters' hype? Science is probably as far away as ever from such an ideal, even though progress in producing reliable knowledge and understanding has been phenomenal over the past few hundred years.

I would say that there is cause for human beings to be humble despite their successes. At first we thought we were at the center of the Solar System, and indeed the entire Universe. However, now that we know otherwise, we still want to be the center of some god's attention, or the summum of the evolutionary process. The first is a childish hypothesis of the kind that only our ancestors could justify, the second misunderstands the hypothesis of evolution.

We are very proud to be 'intelligent', and very despising of other animals, because they do not come up to our level. I like to remind people that sheep are nevertheless doing pretty well at our expense, even though their fate as a species lies firmly in our hands, and point out that any extra-terrestrial visitors to Earth would give short shrift to *Homo sapiens* when they understood the key role played by bacteria in the fascinating phenomenon of life. It is a comforting thought to me that bacteria will remain on Earth for a while after *Homo sapiens* has ended his short 'domination', so unwise he proves to be.

And even when we accept that *Homo sapiens* is just another product of evolution, no better nor worse than the rest, although worse if longevity is the gauge, we would still like to say that our minds are somehow a step beyond what can be explained by the Darwinian algorithm, because they are somehow immaterial, unphysical, even magical, like Andrew Marvell's drop of dew, to be called back to heaven at death.

Life after death is another very weak hypothesis, designed only to comfort us,

as children would be comforted. There is no evidence for it, despite the pseudo-scientific interest in so-called near death experiences, and the often unscrupulous interest of ‘mediums’ in somehow picking up magical signals from our loved ones. Diseases like Alzheimer’s should rather make us prefer the hypothesis that we are simply the present state of our brains, purely physical, and possibly one day explicable things.

This certainly diminishes our view of ourselves compared with the idea that we have been fashioned from some magical material by a supernatural and all-powerful being, but it is not so hard to live with. It changes none of the details of everyday existence, and being a much more realistic hypothesis for which there is already considerable and growing evidence, it should surely help us to a better appreciation of how we should live together.

And nor is this view intended to advocate any kind of absolute reductionism of the kind ‘human love is just chemistry and physics’, or ‘free will is just a pointless illusion’. Although we may explain more and more aspects of human love by chemistry and physics, this is only one kind of explanation and it would not change the way we experience this phenomenon, nor expropriate our usual explanations for it, which are typically much more relevant to us. The same goes for free will, where I follow Daniel Dennett once again, in the attempt to uphold a weak form of compatibilism. Our impression of free will may indeed be an illusion of sorts in a deterministic world, if it is deterministic, but it is a useful, even essential one for the way we organise our lives. In fact, by the Darwinian hypothesis, it would be one of the good tricks Nature discovered by accident as we evolved.

In the final reckoning, we should remember that all our explanations are just our ways of explaining things insofar as they interact with us. It does not mean that those things are in any way really like that. We may guess that they are, to some extent, otherwise we would not be so successful in predicting events. But there should be no surprise, in fact no recourse to gods, simply on the grounds that we are able to do mathematics and science with such success in regard to predictions about the world. The evolutionary hypothesis, if it is any good at all, explains just that. After all, it is natural enough that we should have evolved to be good at living the way we do, simply because we are still living.