

Biologically Evolutionary Explanations of Religious Belief

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Does religion have a natural origin and is that natural origin explicable in terms of evolutionary biology? And if this is so, does this have any implications for the truth of beliefs in religion? These are the questions of this essay. They are questions that have been asked many times before. Most recently, they have commanded a lot of attention from cognitive scientists, evolutionary psychologists and others in various fields who suppose that recent research in the cognitive science of religion might help us understand the specifically evolutionary history of religion. This enterprise, which I take to be exemplified in the work of Pascal Boyer and others, is clearly novel in some respects, but it can also be seen as the latest in a long line of evolutionary explanations of one kind or another. Each of these, it might be argued, poses a potential threat to the truth of religion, and each has failed adequately to resolve a number of age-old debates (for example, debates about the adaptiveness or non-adaptiveness of religion, and whether religion is best explained in terms of biological or cultural evolution).

My aim, here, is to give an overview of some of the key debates that have characterized the long history of the evolution of religion. Throughout, I will be particularly concerned with questions about the extent to which evolutionary biology can help answer questions about the natural origins of religion, and with how Darwinian thought has been variously employed, developed, and/or displaced by those offering different kinds of evolutionary explanation of religion. By so doing, I hope to set the evolutionary cognitive science of religion in its historical context, though I will not dwell on the finer details of this field (Ilkka Pyysiainen surveys the key debates admirably in the previous chapter). In describing ECSR's historical background, I hope to show the enduring nature of the evolutionary debates in which it is immersed. It is no trivial matter, as all evolutionary theories of religion, including ECSR must, at some

point, address the crucial question of how much can really be explained by our biological heritage. I will not, however, attempt to give definitive answers to the difficult questions that pervade this complex history, but rather suggest that attitudes to these questions are likely to depend to a certain extent upon what kinds of evidence one takes seriously. In the final section of this essay, I will examine the implications of claims about the natural evolutionary origins of religion for the truth status of religion.

DAVID HUME AND CHARLES DARWIN

Any account of the evolutionary origins of religious belief starts with David Hume. I do not think that Hume was an evolutionist; but, both in his own right and because of his influence on Charles Darwin, his essay, 'The Natural History of Religion', is the definitive text. In that essay, Hume argued that religious beliefs are entirely naturally caused and that they have a developmental history, one taking them from rather primitive polytheistic notions up to the more sophisticated religions of his own day. In a famous passage, he wrote:

There is a universal tendency among mankind to conceive all beings like themselves, and to transfer to every object, those qualities, with which they are familiarly acquainted, and of which they are intimately conscious. We find human faces in the moon, armies in the clouds; and by a natural propensity, if not corrected by experience and reflection, ascribe malice or good-will to everything, that hurts or pleases us. (Hume [1757] 1963, pp. 40–1)

Hume argued that this tendency led naturally to a belief that the world is filled with god or spirits of some kind. Then, he suggested that some gods start to win out over others, until finally we end up with a single god, monotheism. One should note that Hume was not particularly keen on the end result, and—undoubtedly showing his Calvinistic upbringing—he was particularly contemptuous of Roman Catholic beliefs such as transubstantiation, the belief that we are actually eating our god.

Upon the whole, the greatest and most observable differences between a traditional, mythological religion, and a systematic, scholastic one are two: The former is often more reasonable, as consisting only of a multitude of stories, which, however groundless, imply no express absurdity and demonstrative contradiction; and sits also so easy and light on men's minds, that, though it may be as universally received, it happily makes no such deep impression on the affections and understanding. (p. 85)

There is ongoing discussion among Darwin scholars as to the links, direct or indirect, between the ideas of David Hume and Charles Darwin. However, on the matter of religion, there seems little doubt that there was direct and

important influence. We know the Darwin read Hume's essay around the time that he became an evolutionist, that is to say in the late 1830s (Ruse 2008). When Darwin turned to explicit discussion of religion, in his *Descent of Man* (published in 1871), the treatment was almost word for word that of Hume. In particular, Darwin was eager to suggest that beliefs in God are not in any sense hardwired, so that we should at once think that they have adaptive virtues. He pointed out that there are many instances of human races where the idea of God is completely unknown.

There is no evidence that man was aboriginally endowed with the ennobling belief in the existence of an Omnipotent God. On the contrary there is ample evidence, derived not from hasty travellers, but from men who have long resided with savages, that numerous races have existed, and still exist, who have no idea of one or more gods, and who have no words in their languages to express such an idea. (Darwin 1871, 1, p. 65)

How then did Darwin think that religion came about? Very much along the lines that Hume had suggested, that is almost accidentally as the result of a tendency that is a by-product of our (directly selection-caused) human nature.

The tendency in savages to imagine that natural objects and agencies are animated by spiritual or living essences, is perhaps illustrated by a little fact which I once noticed: my dog, a full-grown and very sensible animal, was lying on the lawn during a hot and still day; but at a little distance a slight breeze occasionally moved an open parasol, which would have been wholly disregarded by the dog, had any one stood near it. As it was, every time that the parasol slightly moved, the dog growled fiercely and barked. He must, I think, have reasoned to himself in a rapid and unconscious manner, that movement without any apparent cause indicated the presence of some strange living agent, and that no stranger had a right to be on his territory. (1, p. 67)

Like Hume, Darwin then went on to suggest that we move from primitive religion up to sophisticated religions, and in particular from belief in many gods (polytheism) to just one god (monotheism). Like Hume, Darwin suggested that even sophisticated religions—perhaps most particularly sophisticated religions—have little to commend them. What Darwin was keen to emphasize was that a belief in the natural origins of religion should not thereby commit one to believe that God necessarily exists. Summing up his thoughts on religion Darwin wrote:

The belief in God has often been advanced as not only the greatest, but the most complete of all the distinctions between man and the lower animals. It is however impossible, as we have seen, to maintain that this belief is innate or instinctive in man. On the other hand a belief in all-pervading spiritual agencies seems to be universal; and apparently follows from a considerable advance in man's reason, and from a still greater advance in his faculties of imagination, curiosity and wonder. I am aware that the assumed instinctive belief in God has been used by

many persons as an argument for His existence. But this is a rash argument, as we should thus be compelled to believe in the existence of many cruel and malignant spirits, only a little more powerful than man; for the belief in them is far more general than in a beneficent Deity. The idea of a universal and beneficent Creator does not seem to arise in the mind of man, until he has been elevated by long-continued culture. (2, pp. 394–5)

THE SOCIAL SCIENCES

The one hundred years from around the time of the *Descent of Man* to the early 1970s were something of a black hole for (biological) evolutionary explanations of human behaviours and beliefs and customs. There was little of value and what was produced tends today with good reason to be regarded with suspicion, not to say distaste. There were internal reasons for this and external reasons also. Internally, the most obvious reason is that evolutionary theory generally was in an immature state for much of the time (Ruse 1996). Darwin had no adequate theory of heredity—this came only at the beginning of the twentieth century with the rediscovery of Mendel's thinking on the subject—and it was the 1930s before evolutionists were able to take up the augmented theory of selection and move forward positively with a new paradigm (Ruse 2013). It was the 1960s and 1970s before they felt sufficiently confident to turn full attention to humankind, speaking now specifically at the social and cultural level (Ruse 1979). Even then there was the past to throw off, because as is well known Darwin's ideas had been appropriated by those who had social and political interests to promote. So-called 'Social Darwinism' became a by-word for theses about the virtues of big industry, the justification of denying help to the poor, and even more dreadfully, the motives that led to the awful confrontations and social systems of the first half of the twentieth century. Externally came the rise of the social sciences and with this perhaps understandably an urge to deny the relevance of the biological sciences when it came to human nature. This was not just simply a fight for territory, but also a function of the greatly increased quality and quantity of empirical work, the diversity and complexity of which seemed to negate simple underpinnings in terms of natural selection and the growing theory of heredity. Intermingled with this no doubt even in the most secular of thinkers was an implicit belief that we humans are different. What may function as an adequate explanation for the behaviour of the warthog could never function as an adequate explanation for the behaviour of humankind.

Paradigmatic of the kind of approach taken and results obtained was the celebrated work of the Scottish anthropologist James George Frazer. His *Golden Bough: A Study in Magic and Religion* (first edition 1890, but much enlarged

in later editions) is a full and comprehensive study of societies, their magical beliefs, and their religions. In a Comtian fashion, undoubtedly influenced by the evolutionary speculations of his day, seeing a succession in societies from magic, to religion, and then on to science, Frazer focused on phenomena that he found repeated from society to society, most notably fertility cults. Famously, or perhaps notoriously, he saw the key player as a king who must die, who is sacrificed, but who then reincarnates either himself or through a successor and who thereby ensures the good of the race and also in some versions the revival of nature in the spring after it has reached fulfillment in the previous autumn and then death in the winter. Naturally, he was not indifferent to the ways in which this tale, supposedly repeated in society after society, resonates with the Christian story, with the death of Jesus for our salvation and his subsequent revival at the moment of the Resurrection.

If I am right, the motive force for slaying a man-god is a fear lest with the involvement of his body in sickness or old age his Sacred spirit should suffer a corresponding decay, which might imperil the general course of nature and with it the existence of his worshippers, who believed the cosmic energies to be mysteriously knit up with those of their human divinity. Hence, if there is any measure of truth in this theory, the practice of putting divine men and particularly divine kings to death, which seems to have been common at a particular stage in the evolution of society and religion, was a crude but pathetic attempt to disengage an immortal spirit from its mortal envelope, to arrest the forces of decomposition in nature by retrenching with ruthless hand the first ominous symptoms of decay. (Frazer 1911, pp. v-vi)

It is naturalistic but entirely a matter of culture.

There were of course those who did want to meld biology with their cultural understanding of religion. One such was Sigmund Freud. It is now appreciated fully the extent to which he was committed to a Lamarckian theory of evolution, where the inheritance of acquired characters—the giraffe stretches its neck to get leaves and so the species evolves in that direction—plays the major role (Sulloway 1979). This commitment is fundamental to his theorizing about religion, well known for supposing that everything started with sons killing or castrating their father and then setting up incest taboos against having sex with their mother. One can generalize out from this, for instance by supposing that the killing was followed by an act of cannibalism where the father is eaten to gain his strength in some way and the incest taboo is seen as a foundation for the way in which religion constrains and channels all of our various desires to have our own way into acts that benefit society instead. Religion is thus totally illusory, and functions to harmonize society. It is the universal neurosis in that it takes individual neuroses and brings them together, not necessarily for the best (Freud 1928a).

In my *Future of an Illusion* I was concerned much less with the deepest sources of the religious feeling than with what the common man understands by his

religion—with the system of doctrines and promises which on the one hand explains to him the riddles of this world with enviable completeness, and, on the other, assures him that a careful Providence, will watch over his life and will compensate him in a future existence for any frustrations he may suffer here. The common man cannot imagine this Providence otherwise than in the figure of an enormously exalted father. Only such a being can understand the needs of the children of men and be softened by their prayers and placated by the signs of their remorse. The whole thing is so patently infantile, so foreign to reality, that to anyone with a friendly attitude to humanity it is painful to think that the great majority of mortals will never be able to rise above this view of life. It is still more humiliating to discover how large a number of people living in to-day, who cannot but see that this religion is not tenable, nevertheless try to defend it piece by piece in a series of pitiful rearguard actions. One would like to mix among the ranks of the believers in order to meet these philosophers, who think they can rescue the God of religion by replacing him by an impersonal, shadowy and abstract principle, and to address them with the warning words: 'Thou shalt not take the name of the Lord thy God in vain!' And if some of the great men of the past acted in the same way, no appeal can be made to their example: we know why they were obliged to. (Freud 1928b, p. 21)

Best known of all those who would separate out cultural understanding from any biological underpinning is the French sociologist Emile Durkheim. His *Rules of Sociological Method* (first published in 1895) lays down categorically the independence of the sociological. He did not even want psychology explaining the social, let alone the biological! 'The group thinks, feels, and acts entirely differently from the way its members would if they were isolated. If therefore we begin by studying these members separately, we will understand nothing about what is taking place in the group. In a word, there is between psychology and sociology the same break in continuity as there is between biology and the physical and chemical sciences. Consequently every time a social phenomenon is directly explained by a psychological phenomenon, we may rest assured that the explanation is false' (Durkheim 1982, p. 129). What then of religion? For him, religion is a matter of practice, where an individual is taken up into a community. 'A religion is a unified system of beliefs and practices relative to sacred things, i.e. things set apart and forbidden—beliefs and practices which unite in one single moral community called a Church, all those who adhere to them' (Durkheim 1961, p. 62). Religion therefore has a function, bringing people together—ideas like God and so forth are secondary to this purpose. In Durkheim's terminology, it is all a question of the 'collective consciousness'.

Thus the collective ideal which religion expresses is far from being due to a vague innate power of the individual, but it is rather at the school of collective life that the individual has learned to idealize. It is in assimilating the ideals elaborated by society that he has become capable of conceiving the ideal. It is society which, by leading him within its sphere of action, has made him acquire the need of

raising himself above the world of experience and has at the same time furnished him with the means of conceiving another. For society has constructed this new world in constructing itself, since it is society which this expresses. Thus both with the individual and in the group, the faculty of idealizing has nothing mysterious about it. It is not a sort of luxury which a man could get along without, but a condition of his very existence. He could not be a social being, that is to say, he could not be a man, if he had not acquired it. (Durkheim 1961, p. 270)

In a sense, Durkheim saw religion as becoming outdated, but he saw no true successor or substitute. In the way it binds us together collectively, it has an essential role and thus far no true rival.

CONTEMPORARY EXPLANATIONS

Let us now, with this background, pick up the thread of our story, fast forwarding to the rise of evolutionary explanations of human social behaviour, specifically to contemporary thinking about possible evolutionary origins of religious beliefs. The one thing that strikes the disinterested observer is the extent to which there is a total lack of uniformity by enthusiasts. There is a variety of proposals, few of which are consistent with any other. Trying to bring some consistency or order to the diversity, we can distinguish between those who think that the causes are almost entirely biological and those who think that, although biology is an essential foundation, culture is where the real action takes place. Focusing first on the biological, we can distinguish between those who think that religion is going to be produced by natural selection because it has adaptive virtues and those (including Pascal Boyer et al.) who think that, although natural selection may be all important in evolution, religion is something of a by-product. (I take it that this would be the position of Darwin.)

Prominent amongst those who think that religion is essentially biological in origin and that it is produced by natural selection because of its adaptive virtues is the eminent evolutionary biologist Edward O. Wilson. He argues that religion is selection-produced and of value to humans because—shades of Durkheim—of its worth as something maintaining and cohering group identity.

The highest form of religious practice, when examined more closely, can be seen to confer biological advantage. Above all, they congeal identity. In the midst of the chaotic and potentially disorienting experiences each person undergoes daily, religion classifies him, provides him with unquestioned membership in a group claiming great powers, and by this means gives him a driving purpose in life compatible with his self interest (Wilson 1978, p. 188).

Wilson does admit that there may be something to cultural causes, but essentially he thinks that it all comes back to biology.

Because religious practices are remote from the genes during the development of individual human beings, they may vary widely during cultural development. It is even possible for groups, such as the Shakers, to adopt conventions that reduce genetic fitness for as long as one or a few generations. But over many generations, the underlying genes will pay for their permissiveness by declining in the population as a whole. Other genes governing mechanisms that resist decline of fitness produced by cultural evolution will prevail, and the deviant practices will disappear. Thus culture relentlessly tests the controlling genes, but the most it can do is replace one set of genes with another. (Wilson 1978, p. 178)

One interesting question is whether Wilson thinks that natural selection in this case works purely for the benefit of the individual or whether he thinks (as he has been arguing strongly in other contexts) that selection here works essentially for the benefit of the group. As it happens, Wilson is rather fuzzy on the matter. (My suspicion is that today he is strongly group inclined.) Others, however, have taken strong stands on the individual/group controversy, some coming out strongly on religion as something of virtue or worth to the individual and others coming out strongly as religion of something of worth only in the group context. (Again the spirit of Durkheim hovers over this discussion for it is clear that he would incline strongly to the group perspective. For him, the individual only makes sense considered with respect to the group. That is why he turns his back on purely psychological explanations.)

Representing the former individual-centred position are the physical anthropologist Vernon Reynolds and a scholar of religion Ralph Tanner (1983). They argued strongly that religion is something which benefits and can only benefit the individual. Inventively, they rely heavily in their discussion on a distinction that evolutionists draw between so-called *r* selection—this being selection that works best in unstable conditions—and *K* selection—this being selection that works best in stable conditions. One of the major implications of the *r*-*K* division is that one expects organisms pursuing an *r* strategy to have lots of offspring and comparatively little parental care. This is a good strategy because, if conditions are good, then they can score strongly in the struggle for existence. On the other hand, organisms pursuing a *K* strategy tend to have fewer offspring and to look after them carefully. This is a good strategy in stable conditions because, while you may never have bumper years, you are under no threat of having really bad years and can even things out nicely. Reynolds and Tanner apply this kind of thinking directly to religion, arguing that those religions that encourage many offspring tend to be those religions that exist in countries where conditions are unstable; whereas those religions promoting few offspring are those religions which exist in countries with fairly stable conditions. Reynolds and Hannah point out that Catholic countries are often more variable and frequently have unstable conditions. Protestant countries, to the contrary, tend to be lands where the living conditions are significantly more stable and predictable. They argue that this is a prediction that they

would expect—Catholic religious beliefs and practices tend to promote higher family sizes than do the beliefs and practices of Protestantism.

Strongly arguing for a group-selection perspective on the origin of religion is David Sloan Wilson. Analyzing the society that Jean Calvin founded in Geneva in the sixteenth century, he argues that we find that the religion developed there was one that put great emphasis on group cohesion: rules included 'obey parents', 'obey magistrates', 'obey pastors' and so on down the list to 'no lewdness and sex only in marriage', and 'no theft, either by violence or cunning'. This leads Wilson to write as follows:

To summarize, the God–people relationship can be interpreted as a belief system that is designed to motivate the behaviors [examples of which are listed just above]. Those who regard religious belief as senseless superstition may need to revise their own beliefs. Those who regard supernatural agents as imaginary providers of imaginary services may have under-estimated the functionality of the God–person relationship in generating real services that can be achieved only by communal effort. Those who already think about religion in functional terms may be on the right track, but they may have underestimated the sophistication of the 'motivational physiology' that goes far beyond the use of kinship terms and fear of hell. Indeed, it is hard for me to imagine a belief system better designed to motivate group-adaptive behavior for those who accept it as true. When it comes to turning a group into a societal organism, scarcely a word of Calvin's catechism is out of place. (Wilson 2002, p. 105)

Turning from those who think that religion is produced by direct selective mechanisms of advantage to humans, we find those who think that religion, although biologically caused, tends to be something of a by-product. Anthropologist Pascal Boyer, and the majority of theorists in the field of evolutionary cognitive science of religion (ECSR), incline towards this sort of thinking.

The building of religious concepts requires mental systems and capacities that are there anyway, religious concepts or not. Religious morality uses moral intuitions, religious notions of supernatural agents recruit our intuitions about agency in general, and so on. This is why I said that religious concepts are parasitic upon other mental capacities. Our capacities to play music, paint pictures or even make sense of printed ink-patterns on a page are also parasitic in this sense. This means that we can explain how people play music, paint pictures and learn to read by examining how mental capacities are recruited by these activities. The same goes for religion. Because the concepts require all sorts of specific human capacities (an intuitive psychology, a tendency to attend to some counterintuitive concepts, as well as various social mind adaptations), we can explain religion by describing how these various mind capacities get recruited, how they contribute to the features of religion we find in so many different cultures. We do not need to assume that there is a *special* way of functioning that occurs only when processing religious thoughts. (Boyer 2002, p. 311)

See how Boyer argues that religion has no value in itself but has simply subverted or borrowed features that do have real biological value.

These are the biologists. There are also those who argue that, although biology is important, in the case of humans biology has produced culture and now we are in the situation where culture has taken over (see Leslie Newson and Peter Richerson, and William Bainbridge's chapters in this volume). Religion therefore should be seen very much as a cultural phenomenon, with the biology in the background. One of the most popular recent theories of culture, which sees it as having been produced by biology but with biology now in the background and essentially ineffective, is the theory of memes—so-called 'memetics'—proposed by Richard Dawkins in his bestselling work, *The Selfish Gene*. Dawkins argues that we should recognize cultural units akin to genes, units that he labels 'memes'. Dawkins argues that memes invade people's minds and there reproduce and are passed on to others. What is going on therefore is a selective process, with some memes being more successful than others. It is not a matter of life and death for organisms—at least not immediately—but rather life and death for the cultural units. Note that Dawkins by no means implies that memes are good for the possessors. Indeed, Dawkins is rather inclined to think that frequently—perhaps too frequently—successful memes are those very things which are not particularly good for us. Advertising clearly works on this principle.

The philosopher Daniel Dennett has taken up Dawkins theory of memes with some enthusiasm. He applies the idea directly to the evolution of religion, arguing that it is very much a parasite of the mind, just as for instance the lancet fluke is a parasite of the body. Dennett relates how this parasite first invades the brain of an ant, causing it to climb blades of grass, where it is eaten by sheep and cows. Then the fluke settles in the liver of the mammals and eventually gets excreted. Then the cycle repeats itself, as the fluke is again taken up by the ants. The fluke is of value neither to the ants nor to the cows and sheep, having adaptations which entirely serve its own ends. Religion apparently falls much in the same category, but at the cultural level.

Does anything like this ever happen with human beings? Yes indeed. We often find human beings setting aside their personal interests, their health, their chances to have children, and devoting their entire lives to furthering the interests of an *idea* that has lodged in their brains. The Arabic word *islam* means 'submission', and every good Muslim bears witness, prays five times a day, gives alms, fasts during Ramadan, and tries to make the pilgrimage, or *hajj*, to Mecca, all on behalf of the idea of Allah, and Muhammad, the messenger of Allah. Christians and Jews do likewise, of course, devoting their lives to spreading the Word, making huge sacrifices, suffering bravely, risking their lives for an idea. So do Hindus and Buddhists. (Dennett 2006, p. 4)

People like Dawkins and Dennett obviously share with earlier thinkers like Frazer and Freud the belief that, although socially significant, religion is

ultimately a set of false, and perhaps dangerous beliefs. An interesting parallel between Freud and Dennett is the extent to which they both think of religions as being not just simply bad but disease-like—in Freud's case a kind of collective neurosis, in Dennett's case an unwelcome parasite, a bit like hookworm or even worse a virus like smallpox. Note that their differences are not so much predicated on the biology versus culture divide, but on alternative types of illness or disease, purely psychological versus epidemiological. This said, if one is an enthusiast for memetics, I would have thought that Frazer's work cries out for such an analysis, with the ways in which primitive beliefs have lives of their own and chop and change according to circumstance and fashion. He is truly thinking in an evolutionary cultural way. (Less so Freud, because once the basis ideas are put in place by biology, I am not sure how much scope culture has for changing beliefs—or whether culture is needed for transmission, since we are all going to have the beliefs anyway.)

ARE THE EXPLANATIONS TRUE?

Let us change course a little now. Let us ask about the truth status of the various claims that we have just presented above. Are we talking about serious science, particularly are we talking about serious science which has a fair claim to be true? Or are we talking about speculation? In which case, are we talking about fruitful speculation which might bear further examination? Or are we really just at the level of off-the-top-of-the-head hypothesizing, which really should not be taken too seriously, at least not at this point?

One thing we can certainly say. Not every one of the claims can be true! There are far too many conflicts and disagreements to think that every proposal is well taken. If you think the biology is all-important, then obviously culture is downgraded somewhat. If you think that the key is natural selection, then suggestions that religion is just a by-product are looking in the wrong direction. If you think that individual selection is all-powerful, then clearly hypotheses which depend on group effects as the essence of evolution cannot be true. What does strike the reader vividly in going through the various accounts and suggestions is how little hard evidence is offered in particular cases; or, if such evidence is offered, how weak it turns out to be on more detailed examination.

For instance, Edward O. Wilson really does not give us much by way of firm evidential support for his claims about group solidarity. Likewise, Daniel Dennett gives little support for his belief that religion exists without regard for the good of the individual believer. He certainly makes no effort to speak to those who argue that individual believers are better people or happier people or (more importantly from a biological point of view) reproductively successful

people. Among those who would argue precisely this is David Sloan Wilson. However, before we rush to praise him, although it is certainly true that he does make some effort to provide real empirical underpinning—this is what his survey of Calvinistic thought in sixteenth century Switzerland is supposed to achieve—the skeptical reader might wonder just how detailed and relevant his evidence truly is. Perhaps he is just cherry picking to make his case.

To be candid, the extent to which one is going to be inclined to take one or other of these various proposals seriously is going to depend less on the proposals themselves and more on one's background commitments. In other words, if you go into the discussion convinced that natural selection is all-powerful, that it applies to humans including human behaviour and thought, and that selection almost invariably works at the individual rather than the group level, then you're likely to come out feeling the proposals about the evolution of religion which fit these prior convictions are more likely plausible than any others. In this particular case, one suspects that one will respond favourably to the thinking of Vernon Reynolds and Ralph Tanner. Alternatively, if you favour the memes-eye view of evolution, then you're more likely to feel sympathy for the kind of hypothesizing in which Daniel Dennett engages. A range of other background commitments will likewise shape attitudes to the other ideas I have mentioned, including the thesis, popular within ECSR, that religion is something of a by-product.

All of this in itself is not necessarily a bad thing. It is fairly normal scientific practice to assume that a new area of investigation is going to yield to the theories and methods developed elsewhere. There is no guarantee of success but it is certainly a good heuristic strategy. If something works in one area, then see if it works in another, and don't give up until you can see definitely that the transferred application is inappropriate or unsatisfactory. However, this should be recognized for what it is. One does not have established theories but rather suggestions based on successes elsewhere. This is very much how I see present-day work on the evolution of religious beliefs. I do not think that they are stupid or inappropriate. However, they are very far from being established or even close to being established. A huge amount of work lies ahead. What one can also say is that certain assumptions and prejudices that do seem to mark present-day work will have to be addressed and eliminated. To take but one example, it is glaringly obvious—it is particularly glaringly obvious to anyone who has not been born and bred in the United States—that American scholars, addressing the evolution of religion, tend quickly to assume that what holds in their own country must hold universally. Edward O. Wilson and Daniel Dennett take rather different approaches to the whole subject, with Wilson being far more inclined to give biological evolution a major (positive) place and Dennett being far more inclined to give cultural evolution a major (negative) place. But they are united in thinking that religion is a universal phenomenon of humankind and explanations must accept

this fact. To anyone who was brought up in Europe (with some exceptions like Poland), this assumption is ludicrously untrue. By and large, Europeans simply are not religious. In England, for instance, for most of the population the very suggestion that one might take seriously the major tenants of the Christian faith would be dismissed as absurd. It is not that the English are necessarily hostile to religion as that they are indifferent. People would probably be rather shocked if the Royal Family did not go to church, but in this (as in so many other things) the Royal Family is not representative of the average citizen. Clearly, therefore, any adequate analysis of religion from an evolutionary perspective must reach out beyond the narrow confines of the researchers' own backgrounds. This will not necessarily guarantee success, but one can be certain that success will not come unless these safeguards are taken. For this reason alone, it would be unwise to think of the years when cultural explanations reigned supreme as years that were wasted. A far deeper understanding of the phenomenon of religion is demanded than most of today's evolutionary thinkers appear to have. With some few exceptions, Ralph Tanner is a student of religion, the evolutionists hardly know their own society's religions, let alone those of other societies. Much of the necessary homework has been done, and it is foolish to ignore it.

IS RELIGION TRUE?

Suppose that one does grant at least some potential validity to some form of evolutionary approach to religion. Here is the final question: What implication does any of this have for the truth status of religion itself? In other words, can we say anything at all about whether or not God exists or whether or not He cares for us, given some particular evolutionary analysis of these and related beliefs? Both David Hume and Charles Darwin thought that one could separate out the causes of why people believe in religion from whether or not good reasons can be given for believing religious claims to be true. In a way, this attitude is very much akin to upholding the distinction in philosophy of science between the context of discovery and the context of justification. It does not really matter how you get your idea, what really counts is whether or not the idea is true or false. In the same way, if for instance religion is just a by-product of other things, seeing faces in the clouds or seeing spirits in wind-blown parasols, it does not mean that religion is not true. After all, if you think that God created the world according to law-like mechanisms, then religion had to be produced one way or another and ultimately any way is as good as any other. The fact that religion might have natural causal origins is no more damning to its truth status than taking mathematics seriously becomes stupid because those of our proto-ancestors who did take mathematics seriously survived and

reproduced, and those of our proto-ancestors who did not take mathematics seriously did not survive and reproduce.

However there are those who, like various of our social science thinkers, believe that in fact the causal origins of religion are pertinent to its truth status. One is Edward O. Wilson, who argues that once we see that religion is no more than a product of the genes, then we start to see that religion is no more than any other adaptation without any claim to absolute validity. In his Pulitzer Prize winning work, *On Human Nature*, Wilson writes:

But make no mistake about the power of scientific materialism. It presents the human mind with an alternative mythology that until now has always, point for point in zones of conflict, defeated traditional religion. Its narrative form is the epic: the evolution of the universe from the big bang of fifteen years ago through the origin of the elements and celestial bodies to the beginnings of life on earth. The evolutionary epic is mythology in the sense that the laws it adduces here and now are believed but can never be definitively proved to form a cause-and-effect continuum from physics to the social sciences, from this world to all other worlds in the visible universe, and backward through time to the beginning of the universe. Every part of existence is considered to be obedient to physical laws requiring no external control. The scientist's devotion to parsimony in explanation excludes the divine spirit and other extraneous agents. Most importantly, we have come to the crucial stage in the history of biology when religion itself is subject to the explanations of the natural sciences. As I have tried to show, sociobiology can account for the very origin of mythology by the principle of natural selection acting on the genetically evolving material structure of the human brain.

If this interpretation is correct, the final decisive edge enjoyed by scientific naturalism will come from its capacity to explain traditional religion, its chief competition, as a wholly material phenomenon. Theology is not likely to survive as an independent intellectual discipline. (Wilson 1978, p. 192)

It is interesting to note that, although Wilson does not want to give religion any ultimate truth value, unlike others (for instance Richard Dawkins and Daniel Dennett) although like others (Durkheim notably) Wilson thinks that religion has an important social value. Therefore, rather as in the *Republic* Plato argues for the virtues of the noble lie, the belief that humans are essentially made up of gold, silver, or bronze, so Wilson argues for the virtues of his noble lie, the belief that religion is true. Where he would take one step more is in arguing that we require a new religion for the new age. In recent years, he has been promoting just such a vision, one which pushes a kind of humanism based on a progressive reading of the evolutionary process. (Wilson is a major enthusiast for the ideas of the nineteenth-century evolutionist Herbert Spencer. Much that Wilson advocates today can be found in the writings of that quintessential Victorian.)

My suspicion is that basically Hume and Darwin are right. If the belief in mathematics can be explained naturally, it does not follow that mathematics is not necessarily true. Likewise, if the belief in religious systems can be

explained naturally, it does not follow that the religious systems are not necessarily true. This does not mean that they are true, but rather that a naturalistic explanation does not show them to be false. However, I suspect some qualifications need to be made here. Having full regard for the nature of the claims that religion makes, I suspect that certain, possible, natural origins of religion would sit uncomfortably for the true believer. We know that the evolutionary process causes a great deal of pain and suffering. Hence, if we are religious believers, we have to accept that the God that we believe was creator allowed this pain and suffering as part of the creative process. It may well be that God is all-loving and all-powerful, but still we must allow that God almost positively endorses the agonies that were required for organisms to exist as they do today—organisms including human organisms.

I am just making this point and not intending here that it be taken as a refutation of Christianity in particular or religion in general. As is well known, religious people have many arguments to counter the problem of evil. What I am saying is that causes of origins are not entirely irrelevant to the contents of the beliefs, and that particular causes and particular contents might sit uneasily together and require a certain amount of clarification and argumentative justification. Let me push this point. I could imagine origins that it would be very, very difficult indeed to reconcile with Christian belief. Suppose, to take a rather unpleasant example, one could show that religious beliefs come because and only because of instances of sexual assault. It is only after somebody has been violated sexually that, either in their own minds or the minds of others, religious beliefs start to spring up and can spread. Please note, I am not saying that this is in any sense plausible but simply proposing it as a hypothetical example. But suppose that it is true. One therefore seems to be in the position of saying that religious beliefs come about through, and only through, really vile evil acts. Does one really want to say that this is compatible with Christian belief?

Or if you want a slightly more plausible example, take the Holocaust. The story of Job shows very well that, when people are suffering, they tend to turn to God rather than away from Him. The Holocaust involved extreme suffering. Suppose then that sociologists and others are able to show that religious beliefs persist only when really dreadful events like the Holocaust occur. Is this really something that one expects of a loving, powerful deity? Without answering this question fully one way or the other, I think at least it must be allowed that it does pose a major issue to be discussed. Hence, what I am saying is that, although logically religious beliefs can be held no matter what the causal origins, I am not convinced that the causal origins are entirely irrelevant to the truth status of the religious beliefs. The point I am making is one that would be strongly endorsed by Frazer. That there are echoes in other societies of the story of the Incarnation and the Atonement—the coming of the living god and his death on the cross for our sins, followed by his coming again to life and thus making possible our salvation—do not in themselves make the story false. But

you do start to wonder if our story is but one among many and that we believe it and not the others simply because it is ours, it is the one that we learnt as children. If we reject the others then candour demands that we reject ours. Even if it is true, we have no good reason to think it true. The causal understanding of religion makes the epistemological justification shaky to the point of absurdity.

This brings us to the final question of whether or not any of the proposed causal explanations sketched earlier in this paper fall anywhere close to the kinds of repellent, causal processes that I have just been discussing. Obviously most do not. When Edward O. Wilson argues that religion promotes group cohesiveness, one is about as far from sexual assault or the Holocaust as one can possibly imagine. In fact, if Wilson is right, far from the Christian accepting Wilson's own conclusion that Christianity is therefore false, the Christian might well think that we have the sort of warm and friendly origins that one would expect of his or her God. However, perhaps expectedly given that Daniel Dennett is a violent critic of any and all religious beliefs, one might think that his parasite-based explanation does cast doubt on the truth status of religion. One suspects that this was very much his intention. If religion is basically the cultural equivalent to the lancet fluke, then it is hard to think that it is something of great value and worth to humankind.

It is surely obvious that if one is a believer and if one thinks there is something to Dennett's scenario, then one should be addressing the issue. One way to do this obviously would be to show that Dennett's claims are empirically false. Independently above, I have already suggested that his claim is not obviously well taken, given the extent to which they are so American-centric. In the same vein, one might attack the whole theory of memetics generally. There are many inclined to do this, given the theory's inability to offer any new or fruitful predictions (Ruse 2009). Another way to counter Dennett might be to suggest that even if memetics be true, the parasite analogy is not necessarily the best one when thinking about religion. And even if the parasite analogy is well taken, then one should recognize that sometimes parasites are of value rather than otherwise. For instance, when termites shed their outer coverings (which they do several times during their lives), they lose the parasites necessary to digest the cellulose on which they live. They therefore needed to pick up the parasites again from other species members. So perhaps religion could be likened to the sort of parasite which, far from being unpleasant and dangerous like the lancet fluke, is of important social and physical value.

CONCLUSION

There is today a range of suggestions about the possible evolution of religious states. Not all of them are particularly well taken, but if one takes seriously

evolutionary biology then, at the least, we should allow the possibility that one or more of the proposals will develop into deeper explanations of our religious beliefs. As noted, it would be foolish to think that this should be done in opposition to the work of anthropologists and sociologists and others. If any real advances are to be made, it is surely going to be a joint effort rather than something done in ignorance of the findings and theorizing of others. Whether or not any of this has implications for the truth status of religion is another matter. As a general rule, probably it does not. However, one should be wary of absolute judgments at this point. Depending on the nature of the explanations, it may be that the religious believer will need to rethink and perhaps to defend and even amend the beliefs that he or she holds dear.

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