

Could biology explain the evolution of religion?

May 28 2014, by Robert Young



One among many inevitable phenomena? Credit: edwardmusiak, CC BY-NC-ND

For a biologist like me, the interesting questions about religion have always been where did it come from and why did it evolve? I taught evolutionary biology in a Catholic University in [the most Catholic country in the world](#) – Brazil. Some of my colleagues here in the UK thought that must have been very challenging, but it wasn't. The Brazilian population is unusual in that [60% of the population](#) are religious and also believe in evolution by natural selection.

The development of new religions looks like the way new species are

formed and thrive. In case of protestants, the "evolutionary spark" would be Martin Luther with his calls for reform. Similarly the deliberate differences, such as religious rituals, were created to keep the two faiths separated in the same manner that speciation of songbirds often provides related species with similar, but distinct songs so they will not interbreed.

A [recent study](#) by Bernard Crespi and Kyle Summers at Simon Fraser University attempts to explain religion in biological terms. They believe that evolution of religion is similar to what happens to biological species when they evolve through "inclusive fitness", which is how biologists describe talk about nepotism.

The goal of all organisms is first to survive and then to create as many copies of their genes as possible, this can be done by reproducing at a high rate or by helping your relatives (who have copies of your genes) to reproduce or survive (inclusive fitness). There is an old Bedouin saying, which sums up what scientists call Hamilton's Rule:

Me against my brothers, me and my brothers against my cousins, me and my brother and my cousins against the world.

So inclusive fitness says we should take into account the copies of our genes in the bodies of relatives when expressing behaviour and help relatives when we are in gene profit.

For most of our evolutionary history we lived in small groups (fewer than 250 individuals) of relatives and in-laws. It was here that religion was first born. Anthropologists believe it started as wisdom being passed down from elder relatives. In many religions, the ancients (the dead) are worshipped as givers of advice. Much of this advice would be moral guidelines about how to treat kin well – love thy neighbour – and thereby promote copies of your own genes through the survival and reproduction of relatives.

The question is how to get people to believe in and follow such advice, the answer would be to develop the concept that such wisdom comes from super-beings. If such elders were long dead, this creates a concept of a benevolent supernatural parent figure, which are frequent in many religions. Thus, serving God is synonymous with serving your kin circle. Such selfless behaviour is susceptible to exploitation by free riders, but this is counteracted by the overseeing kin circle (the omnipresent God).

To support this evolution of tribal Gods, mechanisms are necessary to promote spiritual feelings (belief in the supernatural). Feeling spiritual has a genetic basis related to the creation of ideas and people with these genes are [more likely](#) to be religious. These feelings are also related to the friendliness neuromodulator oxytocin, which can generate a [warm feeling of power](#), and which comes from being part of a large cooperative group.

All these are particularly important determinants of women's behaviour, who in most societies are [more religious](#) than men. Women also often have the responsibility of religious education for children. Thus, we can find underlying physiological, neurological, psychological and genetic mechanisms behind religiosity. All the ingredients are in place for religion to evolve in families.

This explains to some extent why religion evolved in our species. But modern societies are very different from the kin groups where [religion](#) evolved. Robert Hinde [suggests](#) that the interesting question in modern times is "Why Gods persist?" His answer is surprisingly simple: Intrinsically religious people (who have faith for its own sake) have better physical and mental health than the rest of the population. Whereas extrinsically religious people (who have faith because they want to gain something) have no better health than atheists. Put simply, there is an evolutionary advantage in being intrinsically religious.

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Provided by The Conversation

Citation: Could biology explain the evolution of religion? (2014, May 28) retrieved 28 April 2024 from <https://phys.org/news/2014-05-biology-evolution-religion.html>

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