



Without religion we would still be living in the Stone Age, says **Ara Norenzayan**

The idea that launched a thousand civilisations

ON A hilltop in what is now south-eastern Turkey rests the world's oldest temple of worship. With its massive, T-shaped stone pillars carved with images of animals, Göbekli Tepe is challenging long-held assumptions about the origins of civilisation. While archaeologists are unearthing clues and debating their meaning, the significance of the site escapes no one.

No evidence of agriculture has been found at the site, which may be explained by the fact that it dates back about 11,500 years, making it old enough to have been built by hunter-gatherers. Yet the monumental architecture of Göbekli Tepe would have required the participation of many hundreds, possibly thousands, of people (*Documenta Praehistorica*, vol 37, p 239). It may therefore hold clues to two of the deepest puzzles of human civilisation: how did human societies scale up from small, mobile groups of hunter-

gatherers to large, sedentary societies? And how did organised religions spread to colonise most minds in the world?

The first puzzle is one of cooperation. Up until about 12,000 years ago all humans lived in relatively small bands. Today, virtually everyone lives in vast, cooperative groups of mostly unrelated strangers. How did this happen?

In evolutionary biology cooperation is usually explained by one of two forms of altruism: cooperation among kin and reciprocal altruism – you scratch my back and I'll scratch yours. But cooperation among strangers is not easily explained by either.

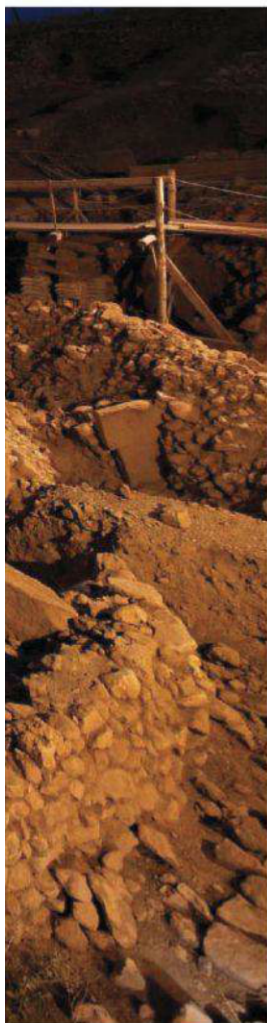
As group size increases, both forms of altruism break down. With ever-greater chances of encountering strangers, opportunities for cooperation among kin decline. Reciprocal altruism – without extra safeguards such as institutions for punishing

freeloaders – also rapidly stops paying off.

The second puzzle is how certain religious traditions became so widespread. If you are Christian, Muslim, Jewish, Hindu, Buddhist, or an agnostic or atheist descendant of any of these, you are the heir to an extraordinarily successful religious movement that started as an obscure cultural experiment.

“Many are called, but few are chosen,” says the Gospel according to Matthew. This might as well describe the law of religious evolution, which dictates that while legions of new religious entities are created, most of them die out, save a potent few that survive and flourish.

In the long run, almost all religious movements fail. In one analysis of the stability of 200 utopian communes, both religious and secular, in 19th century America, Richard Sosis of the University of Connecticut in Storrs found a striking pattern. The average lifespan of the religious communes was a mere 25 years.



Göbekli Tepe in Turkey, a temple at the dawn of civilisation

In 80 years, 9 out of 10 had disbanded. Secular communes, most of which were socialist, fared even worse: they lasted for an average of 6.4 years and 9 out of 10 disappeared in less than 20 years (*Cross-Cultural Research*, vol 34, p 70).

Göbekli Tepe suggests an elegant solution to both puzzles: each answers the other. To understand how, we need to revisit the lively debates about the evolutionary origins of religion.

A growing view is that religious beliefs and rituals arose as an evolutionary by-product of ordinary cognitive functions (see page 38). Once that happened, the stage was set for rapid cultural evolution that eventually led to large societies with “Big Gods”.

Some early cultural variants of religion presumably promoted prosocial behaviours such as cooperation, trust and self-sacrifice while encouraging displays of religious devotion, such as fasts, food taboos, extravagant rituals and other “hard-to-fake” behaviours which reliably transmitted believers’ sincere faith (*Evolution and Human Behavior*, vol 30, p 244), and signalled their intention to cooperate (*Evolutionary Anthropology*, vol 12, p 264). Religion thus forged anonymous strangers into moral communities tied together with sacred bonds under a common supernatural jurisdiction.

In turn, such groups would have been larger and more cooperative, and hence more successful in competition for resources and habitats. As these ever-expanding groups grew they took their religions with them, further ratcheting up social solidarity in a runaway process that softened the limitations on group size imposed by kinship and reciprocity.

From there it is a short step to the morally concerned Big Gods of the major world religions. People steeped in the Abrahamic faiths are so accustomed to seeing a link between religion and morality that it is hard for them to imagine that religion did not start that way. Yet the gods of the smallest hunter-gatherer groups, such as the Hadza of east Africa and the San of the Kalahari, are unconcerned with human morality. In these transparent societies where face-to-face interaction is the norm, it is hard to escape the social spotlight. Kin altruism and reciprocity are sufficient to maintain social bonds.

However, as groups expand in size, anonymity invades relationships and cooperation breaks down. Studies show that

“While legions of new religions are created, most of them die out save for a potent few that survive and flourish”

feelings of anonymity – even illusory, such as wearing dark glasses – are the friends of selfishness and cheating (*Psychological Science*, vol 21, p 311). Social surveillance, such as being in front of a camera or an audience, has the opposite effect. Even subtle exposure to drawings resembling eyes encourages good behaviour towards strangers (*Evolution and Human Behavior*, vol 26, p 245). As the saying goes, “watched people are nice people”.

It follows, then, that people play nice when they think a god is watching them, and those around them (see “In atheists we distrust”, left). The anthropological record supports this idea. In moving from the smallest scale human societies to the largest and most complex, Big Gods – powerful, omniscient, interventionist watchers – become increasingly common, and morality and religion become increasingly intertwined (*Evolution and Human Behavior*, vol 24, p 126).

Quentin Atkinson of the University of Auckland, New Zealand, and Harvey Whitehouse of the University of Oxford have found a similar shift in ritual forms: as societies get larger and more complex, rituals become routine and are used to transmit and reinforce doctrines (*Evolution and Human Behavior*, vol 32, p 50). Similarly, notions of supernatural punishment, karma, damnation and salvation, and heaven and hell are common in modern religions, but relatively infrequent in hunter-gatherer cultures.

Several lines of experimental evidence point in the same direction. In one study, children were instructed not to look inside ▶

In atheists we distrust

One of the most persistent but hidden prejudices tied to religion is intolerance of atheists. Surveys consistently find that in societies with religious majorities, atheists have one of the lowest approval ratings of any social group, including other religions (*American Sociological Review*, vol 71, p 211).

This intolerance has a long history. Back in 1689, Enlightenment philosopher John Locke wrote in *A Letter Concerning Toleration*: “Those are not at all to be tolerated who deny the Being of a God.

Promises, Covenants, and Oaths, which are the Bonds of Humane Society, can have no hold upon an Atheist.”

Why do believers reject atheists, who are not a visible, powerful or even a coherent social group? The answer appears to be the same force that helped religions expand while maintaining social cohesion: supernatural surveillance.

My colleagues Will Gervais, Azim Shariff and I have found that Locke’s intuition – that atheists cannot be trusted to cooperate – is the

root of the intolerance (*Journal of Personality and Social Psychology*, vol 101, p 1189). Outward displays of belief in a watchful God are viewed as a proxy for trustworthiness. Intolerance of atheists is driven by the intuition that people behave better if they feel that a God is watching them.

While atheists think of their disbelief as a private matter of conscience, believers treat their absence of belief in supernatural surveillance as a threat to cooperation and honesty.

Natural religion, unnatural science

a box, and then left alone with it. Those who had been told that a supernatural agent called Princess Alice was watching, and actually believed in her existence, were much less likely to peek (*Journal of Experimental Child Psychology*, vol 109, p 311).

Economic games have also been used to probe prosocial behaviour. The dictator game, for example, involves two anonymous players in a one-off transaction. Player 1 is given some money and must decide how much of it to give to player 2. Player 2 receives the money (or none) and the game ends. Experiments by Joseph Henrich of the University of British Columbia in Vancouver, Canada, and his colleagues found that, across 15 diverse societies from all over the world, believers in the Abrahamic God gave away more money than those who believed in local deities who are not as omniscient and morally concerned (*Science*, vol 327, p 1480).

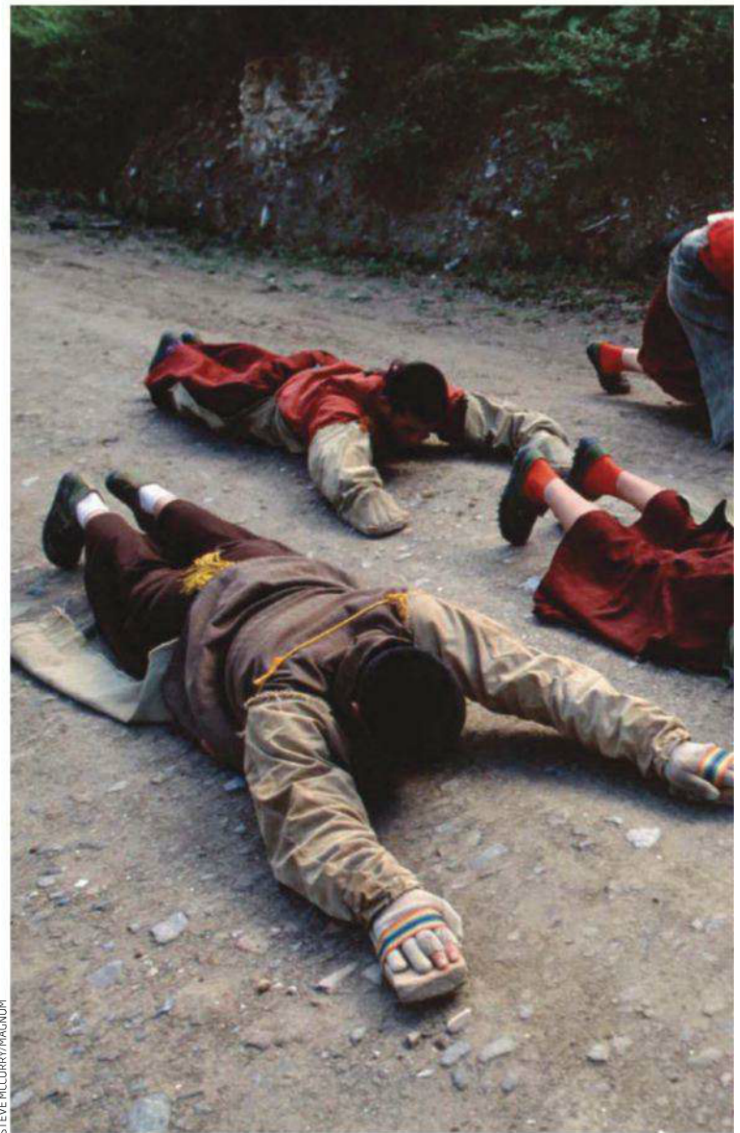
My colleague Azim Shariff and I planted thoughts of God in people before they played the dictator game by subtly exposing them to words such as divine, God and spirit. Other participants played the game without religious prompts. The reminders of God had a powerful effect. Most people in the unexposed group pocketed the lot but those primed to think of God were much more generous (*Psychological Science*, vol 18, p 803). My colleague Will Gervais and I found that religious reminders heightened believers' feelings of being under surveillance (*Journal of Experimental Social Psychology*, vol 48, p 298).

Religion, with its belief in watchful gods and extravagant rituals and practices, has been a social glue for most of human history. But recently some societies have succeeded in sustaining cooperation with secular institutions such as courts, police and mechanisms for enforcing contracts. In some parts of the world, especially Scandinavia, these institutions have precipitated religion's decline by usurping its community-building functions. These societies with atheist majorities – some of the most cooperative, peaceful and prosperous in the world – have climbed religion's ladder and then kicked it away.

Subtle reminders of secular moral authority, words such as civic, jury and police, have the same fairness-promoting effect as reminders of God in the dictator game. People have discovered new ways to be nice to each other without a watchful God. ■

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Hard-to-fake displays of devotion look bizarre to outsiders but help bind people together



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