Building megasocieties didn’t require divine intervention, study says

Studying a societal chicken and egg situation?

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A new study in *Nature* claims that big, complex societies arose before people started believing in major gods or powers that enforced social rules. That’s a new twist in the debate over whether such “moralizing” religions were a prerequisite for social expansion.

A common theme in most of the world’s major religions today is that some supernatural power will enforce a set of rules that do two things: proscribe how people worship and dictate how they relate to each other. This can be enforced via an omnipotent god or a mechanism like karma.

People have believed in, and worshipped, supernatural powers for a very long time, but the gods they worshipped haven’t always done both these things. Many early ones didn’t always care whether humans played nicely with each other as long as the gods got *their* prescribed due. If any supernatural entity enforced human social norms, it was often a minor god or spirit, not one of the big cosmological players.

Latecomers

Religions where major supernatural powers enforced social rules didn’t start to appear until around 2800 BCE, when Egyptian texts start to describe the Nile Valley’s gods enforcing the idea of ma’at, or order. Similar ideas popped up sporadically in various places over the next 2,000 years or so, and they really took off around 1000 BCE.

“It seems to be mostly historical chance: broad supernatural punishment (e.g., karma in Buddhism) and moralizing high gods (e.g., the Abrahamic God) seem to play similar functional roles,” Keio University ethnomusicologist Patrick Savage, a co-author on the study, told Ars. “It just happens that Buddhism tended to spread generally East from South Asia and Abrahamic Gods spread generally West from the Middle East.”

Some sociologists have argued that people needed to believe in gods who demanded things like cooperation, fairness, and honesty—otherwise it would be impossible to unite large populations into a political structure and build the infrastructure you need to run an empire. But if that’s the case, then so-called moralizing gods would have appeared before the rise of such complex, large-scale societies. In this new study, University of Oxford anthropologist Harvey Whitehouse and his colleagues say that’s not how it happened.

Which came first?

To make broad, sweeping statements about the course of human history, you need a lot of data from a wide sample of times and places. For that, Whitehouse and his colleagues turned to the Seshat Global History Databank, a database of information about hundreds of past societies, gleaned from historical records and archaeological evidence. Think of it as something like a *CIA World Factbook* for cultures from the Neolithic through the beginning of the industrial era. Whitehouse and

his colleagues looked at information about the size, social structure, and religious practices for 414 societies, spanning about 10,000 years of human history.

They found that most societies that reached a certain level of size and complexity (which they called megasocieties) also developed religions with gods that enforced social rules. But the religion usually appeared around 100 years after the megasociety boom, not before. It looked as if big, complex societies gave rise to religions with big, powerful gods that enforced social behavior, not the other way around.

“Once societies grew larger than around a million individuals, they may have become vulnerable to internal structural tensions and conflict,” Whitehouse told Ars. “Moralizing gods might have provided a way of enabling societies to continue to prosper in spite of those tensions, by getting everyone to cooperate to avoid offending a higher power who not only cared about our behavior towards one another but was thought to punish free-riders and other non-cooperators.”

On the other hand, Whitehouse and his colleagues noticed that religious doctrine, regardless of the social values of the gods involved, tended to appear well before societies swelled into megasocieties. It was almost as if collective religious rituals, repeated regularly and often, were actually a prerequisite for the growth of megasocieties. They speculate that those rituals could have united large populations and driven the growth of megasocieties, but the data didn’t point to a clear answer one way or the other.

“I got interested in this topic after doing two years field research in Papua New Guinea, where I found that large-scale groups (too big for their members to know each other personally) tended to have very different collective rituals from small-scale (face-to-face) groups,” Whitehouse said. He and psychologist Quentin Atkinson looked at 74 other cultures around the world and found a similar pattern. “This made us

wonder if doctrinal rituals helped explain the great agricultural revolution as it's known among archaeologists—the transition from foraging to farming that laid the foundations for the rise of the world's great civilizations," he said.

Exceptions to every rule

Concepts like "social complexity" are tricky to define even for anthropologists and sociologists. (It's also really important to remember that the complexity of a society's structure has nothing to do with how advanced, sophisticated, or "civilized" its people and culture are.) Complexity involves a mix of factors like political structures, size, and infrastructure, but a society may have some of those things and not others. Whitehouse and his colleagues assigned numeric values to 51 different variables, including a society's population, the size of its territory, the number of hierarchical levels of its government, and whether it had roads or irrigation. All of these were used to calculate an overall score for each society.

The Inca Empire had a score of 0.61, just above the megasociety threshold, and it also stands out as the only megasociety that didn't have big, moralizing gods or supernatural forces. On the other hand, a few societies, especially in Iceland and across a broad stretch of the southern Pacific, did develop moralizing gods without reaching megasociety scale. Those exceptions are a good reminder that although it's always worthwhile to look for general patterns, there are exceptions to nearly every broad statement about human cultures.

"I think that with all the often negative attention given to the relationship between religion and violence, this could provide a counterbalance to emphasize the possibility of religion to bring people together," Savage told Ars. "Now after horrible tragedies like the Christchurch mosque

shooting, such cooperation is more important than ever.”

In the future, Savage says that he and his colleagues hope to use the Seshat database to examine other theories about things like warfare, agriculture, and human sacrifice.

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