The Emergence of Religion in Human Evolution

The last 20 years have seen significant progress in the fields of bioscience and neuroscience. Particularly interesting is the recent research which focuses on the biological basis of the religious capacity of Homo sapiens. A new volume, *The Emergence of Religion in Human Evolution*, tries to give an initial answer to this question.

The study was born from the collaboration between Margaret Boone Rappaport, an American biologist and cultural anthropologist, and Francesco d'Errico, a neuroscientist from the Specola Vaticana at Castel Gandolfo, near Rome. Both scientists work in Tucson, Arizona (USA).

The religious capacity of *Homo sapiens*

The first two chapters of the book immerse us in this new research. They define the different paradigm changes, and the scientists present a new and different consideration of the evolutionary lines of hominids. For example, they focus on our species, *Homo sapiens*, as it has evolved and continues to evolve.

According to the two authors, it is possible to demonstrate that the “religious capacity” of *Homo sapiens* is a highly developed capacity that is specific to our species. It is also possible to show that this capacity is not present in older human species, such as *Homo heidelbergensis*, *Homo neanderthalensis*, and *Homo denisova*.

*Homo erectus*, from which these more recent human species originated, does not seem to have had a “religious capacity.” Nevertheless, the two authors claim that *Homo erectus* lacked the necessary neurocognitive capacities to express a “religious capacity.” They argue that the development of a “religious capacity” for the first time in *Homo sapiens* was possible because of the evolution of the brain and the development of new neurocognitive capacities.

For there to be a “moral capacity,” it is necessary to have two types of neurocognitive capacity, which were likely to be developed in *Homo erectus*. These capacities are necessary for a being to act morally. The scientists describe and analyze these capacities in detail.

Unfortunately, we have no direct knowledge of the genetic heritage of *Homo erectus* (we do not have the genome), which makes it impossible to verify the existence of these neurocognitive capacities in this species.

Moral capacity and religious capacity

The book makes it clear that moral capacity is distinguished from religious capacity. Both these abilities fall within the broader category of cultural capacity. The two authors argue that the development of cultural capacity, which emerged about 800,000 years ago, long before *Homo sapiens* (present only for the last 300,000 to 400,000 years), was necessary for the development of a subsequent religious capacity.

Another novelty of *Homo sapiens* is the genetic activation of the HAR zone on chromosome 20, which became responsible for the expression of the “religious capacity.” This zone is responsible for activating up to 60 million years or more, and shows in our species only, a change which allows significantly greater genetic activity.

In this regard, there is still much research to be done; but one should not expect to find something like the “God gene.” The question of the biological foundation of the phenomenon of religion, or “religious capacity,” remains an open question.

The birth of culture

What about the emergence of culture? Does it have a biological foundation? The two authors give a positive answer to this question. They argue that there is a common ancestor with cerebral characteristics that made possible the emergence of “culture capacity.”

The two scholars are aware that the question of the biological foundation of the phenomenon of religion, or “religious capacity,” remains an open question. They argue that we must consider the possibility that individuals of our kind possess “religious capacity,” just as there are people today who do not have “moral capacity.”

After this account of the book’s contents, perhaps someone might want to read it. But we must warn that the text is not easy to read. It requires a good knowledge of biology, possibly integrated with an understanding of anthropology and philosophy.

A more popular book on this topic is needed, so as to make these discoveries and the opinions of the two authors accessible to a wider audience.

Nevertheless, based on the data already acquired, the authors formulate this statement: “The central thesis of this book is that the expression of the ‘religious capacity’ in Homo sapiens ‘emerged’ about 190,000 years ago, and exclusively in the evolutionary line of *Homo sapiens*.”

Religious experience and genetic heritage
The two authors are aware that their book is the first in a series of future studies in this field of research. It would make sense to consider the potential impact of such a study, which would likely be significant not only for religious studies but also for anthropology and theology. The book does not provide guidelines on how to understand religious phenomena; however, it does offer insights into the nature of religious experience and its biological roots.

Regardless of cultural differences, religious experience is universal. It is a fundamental aspect of human existence, influencing our thoughts, actions, and beliefs. The authors emphasize that religious experience is not limited to specific cultural contexts and is present across diverse societies.

Let us now try to consider what the original contribution of neuroscience can be. It seems that our species is able to adapt to new environmental conditions by altering our genetic makeup. This ability to modify our genetic makeup in response to environmental changes is known as genetic drift. It allows our species to evolve and adapt to new environments.

Genetic drift and religious capacity
Reading the book, one is impressed by the discoveries that have been made in recent decades. It is fascinating to realize how our species has evolved over time, adapting to new environments and challenges. The authors highlight the importance of understanding the role of genetics in shaping our religious beliefs and behaviors.

It is these novelties, together with other existing capacities (phenomena such as neuroplasticity and neuro-networks), that have allowed our species to develop a unique religious capacity. This capacity enables us to connect with the divine and to experience spiritual phenomena.

The science of life and religion
We also note that in this evolution the two authors of the book do not find any teleology: there is no "causal necessity" that can explain the development of our species. The book concludes with a proper theological note, emphasizing the role of God in shaping our evolution.

It is interesting to note that from the discoveries and hypotheses of these scholars an image of humanity emerges that is more complex and nuanced than previously thought. The ideas of group selection, non-genetic heredity, etc. These concepts increase our amazement before the mystery of the human person.

And what about our "talking about God," that is, "theology"? Will it be influenced by this new representation of the human person? The authors do not claim to write about theology, but they acknowledge that it is a topic that needs to be explored further.

We would like to conclude these reflections on a properly theological note. Undoubtedly, the results of contemporary research will have a significant impact on our understanding of religion and its role in our lives.


Johan Verschueren, SJ - La Civiltà Cattolica