

Evolving belief and being human: The emergence of religion in science and theology

**Author:**Bernice Serfontein¹ **Affiliation:**

¹Department of Systematic and Historical Theology, Faculty of Theology and Religion, University of Pretoria, Pretoria, South Africa

Corresponding author:

Bernice Serfontein,
bernice.serfontein@gmail.com

Dates:

Received: 30 June 2023

Accepted: 09 Oct. 2023

Published: 31 May 2024

How to cite this article:

Serfontein, B., 2024, 'Evolving belief and being human: The emergence of religion in science and theology', *Verbum et Ecclesia* 45(1), a2931. <https://doi.org/10.4102/ve.v45i1.2931>

Copyright:

© 2024. The Author.
Licensee: AOSIS. This work is licensed under the Creative Commons Attribution License.

Every human society as well as almost all human life is infused with ethics. There is common acknowledgement that morality and ethics are indispensable in addressing the serious global challenges humanity is faced with today. However, we seemed to have lost our grip on what morality is. How do we best understand human morality and ethics? This research argues that responsible ethics rests on a credible understanding of what it means to be human. The following exploration of the emergence of religion within the science and religion discourse formed part of a series of three seminars that have as their main objective to address a giant void regarding ethical and moral reflection within our society. This research was part of the discourse of the first seminar with the following main research question: What do we learn from the empirical study of morality (in the evolutionary sciences, the neurosciences, cultural anthropology, sociology, and moral psychology) about the sources, functions and characteristics of morality, and its relation to religion? This study offers an exploration of our capacity for religious awareness and belief against the background of niche construction theory. The capacity for imagination seems to have contributed to human evolutionary success and consequently our religious disposition. This transdisciplinary study combines perspectives of some of the most prominent interlocutors in the contemporary discourse on the emergence of religious awareness. By integrating the numerous perspectives evident in this study, this research explores how evolutionary thought can be constructively appropriated to interdisciplinary theology and ethics.

Intradisciplinary and/or interdisciplinary implications: This article explores the origin of religious awareness and belief as part of a larger discourse on morality in history. The interdisciplinary conversation covers the fields of evolutionary anthropology and theology within the contemporary science-theology discourses.

Keywords: religion; belief; morality; evolutionary anthropology; niche construction theory; interdisciplinary theology.

Introductory remarks

As a South African theologian, I consider myself fortunate and proud to follow in the footsteps or rather stand on the shoulders of fellow South African theologians – such as Wentzel van Huyssteen, Klaus Nürnberger, Danie Veldsman, and other contributors to this seminar – who regard it as important to learn from the natural world about what it means to be human and the character of God, the creator. As Christopher Southgate, trained biochemist, theologian and poet, recently said in the Boyle Lecture on Science and Religion (2022), we recognise that the source of insights into God and being human from the natural world has to sit alongside the source of ancient scriptures and the Christian tradition. And yet we have to be clear that there are things about the cosmos that the ancient writers simply did not know and could not have known.

Few theologians have attempted to explore the critical and constructive contributions that not only the natural sciences can make to theological perspectives on being human, but also the contributions theology can make to evolutionary accounts of being human. I find it worthy to mention that in a discussion on the emergence of religion, anthropologist, Agustín Fuentes (2015:171) stresses the substantive and transformative impact of transdisciplinary theologians such as Wentzel Van Huyssteen and Celia Deane Drummond not only on theology but also on anthropology. For many anthropologists, Fuentes (2015:171) argues, the perspective that these theologians apply when endeavouring to comprehend and articulate the human tendency, to view the world around us as more than the material of which it is made, to make meaning of the world, and to create space into place is appealing and innovative. Fuentes (2015:171) further argues that even though most anthropologists are not adherents to a particular faith practice, and

Note: Special Collection: Morality in history.

Read online:

Scan this QR code with your smart phone or mobile device to read online.

most are neither explicitly humanist, nor are they theologians, there seems to be something in what transdisciplinary theologians offer that enables anthropologists as social scientists to gain from and engage in, a mutually enriching intellectual journey.

Van Huyssteen (2006) makes the following remark which in some sense invites anthropologists to engage with theological perspectives on the emergence of religion:

[H]umans are, first of all, embodied beings, and as such what we do, think, and feel is conditioned by the materiality of our embodiment ... there is a 'naturalness' to religious imagination and the human quest for meaning. (p. 312)

This perspective is enticing and meaningful to both anthropologists and theologians, as many of their pursuits overlap, especially when they attempt to understand the universal human propensity to imagine, believe and hope (Fuentes 2015:171). It therefore does not only have implications in a specific theological context, according to Fuentes (2015:171), as it is especially necessary for anthropologists studying human evolution to have a more profound comprehension of how and why humans have imagination, belief and hope, and direct these through rituals – an experience or process that many would identify as religion.

The question inevitably arises, why is it important to explore the emergence of religion, when we are exploring the origin of morality and its implications for ethics? A top-down view of morality, which entails the popular assumption that religion and morality are synonymous, still seems to be common in discourses on the origin of morality. Yet, any perspective that would want to view religion or religious imagination as an obscure or random faculty of the human mind is challenged by the notion that there is a naturalness to religious imagination, as argued by Van Huyssteen (2018:ad loc) and others (Bloch 2008; Fuentes 2022). Consequently, this view, also challenges us to reconsider the relation between morality and religion. Considering the contemporary discourse on the evolution of important aspects of being human, like imagination, moral awareness, sexuality, and religious awareness, the question arises if it is still credible to maintain a view of moral awareness and morality that involves some sort of Divine command. I believe that a more profound notion of the origin of religious awareness, combining interdisciplinary perspectives, contributes to a more responsible, bottom-up approach to the origin of morality. Such a view of morality implies that our capacity for moral awareness has biological roots and is, therefore, innate to the human species. Consequently, this perspective might radically impact our way of thinking about ethics, and in the context of this research, specifically Christian ethics.

For a major part of human history as a genus and as a species (*Homo sapiens*), the milieu of organised religion was very different or even absent. Religion is considered to be a central aspect of being human today. However, there seems to be no robust evidence that religion was an important aspect of

everyday existence for earlier members of the genus *Homo*. Therefore, as argued by Fuentes (2014:242), in the understanding of the emergence of religion, 'it seems important to find points of connection across explanatory frameworks whose foci lie outside of very specific explanations for religion (*sensu latu*) or any particular religious tradition'. Religion, just like various other features of distinctive human existence, evolved. Prominent scholars (Bloch 2008; Fuentes 2019; Van Huyssteen 2006, 2018) exploring the emergence of religion agree that throughout our evolutionary history, human culture and our immersion in symbolic behaviour and belief enabled our capacity to be religious. However, the evolution of religion as a feature of modern human identity was facilitated by very recent events. Religious belief systems as known today evolved and the origin of religion was a gradual emergence that cannot be located to a single moment or event in the human species' history. In the fascinating publication of his 2018 Gifford lectures, *Why We Believe: Evolution and the Human Way of Being*, Fuentes (2019) offers a brief overview of the earliest traces of religious awareness in the history of the human species:

We can certainly say that by 200,000 to 400,000 years ago, humans were occasionally creating material items and engaging in behaviours, such as burials, that may have reflected collective transcendent experiences. By 100,000 years ago we have clear evidence that the density and diversity of these items and behaviours had increased and that they had become more widespread. By 40,000 years ago, evidence of directly representational art can be found across the human landscape, and human groups are engaging in *legisign-laden* rituals. The density and connectivity of ideas, materials, and groups continued to increase over the millennia. We know that by 20,000 to 30,000 years ago there is abundant material evidence of meaning-making everywhere humans are. Human groups are generating more complex social structures and living in greater density. Then domestication begins, altering tool kits and lifeways and ushering in the first firm and interpretable evidence of what we can identify as systems of symbol and ritual: belief systems. The more interconnected humans' lives became, the more frequent and denser the evidence of belief systems. During this time, we begin to see the distinctive group and individual identities represented in the variation of items and tools, different patterns in burials, large-scale architecture, and the representation of the human body in a wide range of styles and contexts. By at least 5,000 to 8,000 years ago, humans were participating in religious institutions as we understand them today. (p. 116)

Anthropologist Roy Rappaport (1999:1) argues that religious belief can be best understood if humans are envisioned as 'a species that lives, and can only live, in terms of meanings it must construct in a world devoid of intrinsic meaning but subject to physical law'. It is also proposed by Rappaport (1991:1) that neither the individual elements of religion nor religion can be reduced to a set of merely functional or adaptive terms. Unfortunately, as Fuentes (2019:117) points out, even though one can, and should, explore evolutionary explanations for many aspects of human religious belief, most current explanations for the evolution of religion are too reductionist to be adequate.

The majority of these explanations propose that religious belief and religion are adaptations caused by natural or cultural selection to facilitate cooperation and help humans organise in large groups. Other explanations suggest that the structures of religious belief emerged as a byproduct of the ordinary functioning of the human cognitive system. Following these lines of thought, religion is seen as a group of beliefs developing from underlying psychological mechanisms that allow humans to invent supernatural agents and consequently believe they are real. In short, the argument is that religious practices are thought to emerge as a logical outcome of evolutionary pressures combined with the belief in supernatural agents as part of the human experience (see Sosis 2009).

Another popular proposal is known as the 'Big Gods' hypothesis. Psychologist Ara Norenzayan (2015), for example, maintains that belief systems structured around 'Big Gods' (interventionist and moralising deities) developed alongside the early increases in social complexity and coordination about 10000 years ago. As these populations increased in complexity, their belief systems, generally personified as deities, became increasingly moralising, interventionist, and powerful. 'Big God' religions, according to Norenzayan (2015), initiated 'Big Groups' characterised by modern, hypercomplex social structures, which include large-scale intragroup coordination as well as large-scale warfare. Other behavioural scientists, such as Johnson and Bering (2006), offer a proposal which also ties warfare and centralised control to the emergence of Big God Religions. Their explanation for the emergence of big religions mainly focuses on the role of punishment and cognition as a core source of cooperation and conflict in human groups. This top-down approach to the origin of religion, views contemporary religions centring around moral regulating and punishing gods, as the direct result of natural selection for specific cognitive characteristics. Even though these arguments are rather popular, they fall short of adequately explaining the emergence of religion. As Fuentes (2019:119) argues, the 'Big God story' is incomplete at best. Instead of explaining religious experience, these proposals offer explanations for the emergence of specific kinds of belief systems and institutions. However, the emergence of such complex and coordinated religions requires religious experience to already be strongly established as part of the human landscape (Fuentes 2019:119).

Evolutionary arguments for the emergence of religion beyond supernatural agency detection and the 'Big God' hypothesis include the role of rituals. Psychologists Boyer and Bergstrom (2008) suggest that 'being religious' is the performance of rituals connected to beliefs about non-physical agents. Consequently, meaning-making activities and associated ritual behaviour become central in the human experience, which in turn prompts the emergence of more organised and formal religion. According to Alcorta and Sosis (2003:265), the difference between practical and religious rituals is evident in the appearance of emotionally permeated symbols. Their argument places transcendent

experiences at the centre of individual believers' experience of what it means to be 'religious'. Bloch (2008:2056) explains that the human experience as a whole – past, present, and future – is distinguished by being at the same time transcendent and transactional. If such is the case, scholarly discussion on human experience and the emergence of religion can without a doubt benefit from transdisciplinary discourse that engages, integrates, and interweaves diverse philosophical, theoretical, and theological perspectives (Van Huyssteen 2018:ad loc).

In exploring the origin of religion, it further becomes clear that the capacity to be religious is a minor part of a greater and deeper human capacity to believe, which could be considered the most promising, prominent, and dangerous capacity that humanity has evolved (Fuentes 2019:10). To explore the emergence of religion then, it is necessary to explore the emergence of belief.

'Belief', according to Fuentes (2019):

[I]s the ability to draw on our range of cognitive and social resources, our histories and experiences, and combine them with our imagination. It is the power to think beyond what is here and now and develop mental representations to see and feel and know something – an idea, a vision, a necessity, a possibility, a truth – that is not immediately present to the senses, and then to invest, solely and authentically, in that 'something' so that it becomes one's reality. (p. 9)

Human bodies, neurobiology, and ecologies are infused by beliefs and belief systems, acting as active mediators in evolutionary processes. Our daily lives, societies, and the world around us are structured and shaped by our capacity for belief, the particulars of belief, and our diverse belief systems. 'We are human, therefore we believe' as Fuentes (2019:9) puts it.

Our world is unbelievably complex, and our evolutionary story tells us it is because of some of our most distinctive traits like consciousness, creativity, and imagination. However, as Fuentes (2017:286) suggests, no characteristic of the modern world is more embedded in our imaginative and hopeful capacities than faith and religious belief. Following Fuentes (2019:121), the rise of imagination as part and parcel of the distinct human niche, is a basic capacity required for the development of a metaphysical perception of the world, and consequently a necessary prelude to having religion. Should this be the case, both evolutionary and religious perspectives could be included in the explanation for how and why humans participate in religious belief and practice. What follows, is an exploration of our capacity for religious awareness and belief against the background of niche construction theory.¹

1. According to Fuentes (2017:5), our best understanding of evolutionary processes in the present day is the extended evolutionary synthesis (EES). Laland et al. (2015:2) suggest, this perspective is unique for its emphasis on organismal causes of development, inheritance and differential fitness, the role of constructive processes in development and evolution, and reciprocal representations of causation (cf. Serfontien 2018). Within the EES, the process known as niche construction is particularly important in exploring the story of human evolution. Niche construction theory considers evolution as a process of 'construction' and never simply a matter of a biologically developing organism. Following this perspective, evolution is a matter of organism and environment systems altering gradually over time in an interactive and dynamic niche construction process.

Belief in the human niche

From a niche construction perspective, the evolutionary story of *H. sapiens*, suggests that human beings were enabled to create meaning in unique ways by behavioural and cognitive agility combined with increasing social cooperation and coordination, as well as the development of and experimentation with symbolic thought (cf. Serfontein 2018).

Over the past 2 million years, members of the genus *Homo* (humans) experienced substantial changes through the emergence of a distinctively human niche. In the most elementary understanding, a niche is comprised of climate, space, structure, nutrients, and other social and physical factors as they are both experienced and restructured, by organisms and the presence of collaborators, competitors, and other agents in a shared environment (Wake, Hadley & Ackerly 2009:19631–19636). Comparative to other hominins, early *Homo* experienced definite morphological changes together with significant behavioural, cognitive and ecological alterations as they constructed and were shaped by this human niche (Antón & Kuzawa 2017; Kissel & Fuentes 2021; Marks 2015). In the construction of the human niche, the aptitude for belief emerged as a noteworthy component generating a dynamic set of advantages and limitations on human lives enabled through human cognition, thought, and perception (Fuentes 2022:2). The construction of the human niche consequently involved the origin of a shared imagination and a set of distinctive socio-cognitive processes (Fuentes 2022:2; cf. Fuentes 2017; Laland 2017; Tomasello 2014; Whiten & Erdal 2012). Essential to the context in which humans evolve is also an all-pervasive semiotic ecosystem (Fuentes 2022:2; cf. Deacon 2016).

In exploring the emergence of the human capacity for belief, Fuentes (2019:38) explains, a vast majority of researchers agree on a few key patterns and traits that played pivotal roles in the initiation of the human niche. It can be argued that the roots of the human niche lie in the networks between bodies and brains, nutrition, caring for offspring, evading predators, and the production of stone tools, in the time between roughly 2.3 million and 1 million years ago.

At the core of some early *Homo* groups' success was a combined reliance on their bodily capacities and social cohesion – which they shared with most primates – as well as their emerging capacity for behavioural innovation, developing new complexes of behaviour that interacted with their ecologies and developing minds in new ways (Fuentes 2019:40).

They began to combine social and cognitive experiences and create new ways to think about and act on the world around them. Enhanced stone toolmaking came about through experimentation, imagination, and collaboration. Their ability

at predator avoidance helped develop communication abilities and heightened their skills at prediction and instant decision-making. Expanding their dietary resources enabled new ways to share those practices intensively and extensively, adding to their nutrition and their overall tool kit. All of these enabled our lineage to develop a level of communication-based social learning, and a collaborative and cooperative intensity of information transfer that surpassed those of other hominins. According to Antón, Potts and Aiello (2014), these patterns can be considered the origin of the human niche.

Two critical changes necessary to developing the human capacity for belief occurred at this time namely, extended childhood and improvement and diversification in diet (Fuentes 2019:40). Firstly, because of their social lives becoming all the more complex, offspring took longer to learn how to be effective adult members of their groups. And secondly, as their diets became more diverse and effective, our ancestors became more capable to feed the expansion of their brains. The combination of these two patterns initiated the evolution of an extended maturation process, which facilitated extended brain growth and more neurological and social development after birth. Early *Homo*'s brains became anatomically more responsive to their environment as they developed increasingly dynamic neural pathways in response to experience which created more learning capacity and improved abilities to imagine and to translate those 'imaginings' into social and material reality (Fuentes 2019:40; cf. Foley 2016; Kuzawa et al. 2014).

A few core processes that emerged as part of the human niche can be related to our capacity for belief and being religious. Initially, the processes and patterns of social cognition, developed from the processes of caretaking, foraging, the control of fire, toolmaking, the creation of symbolic materials, and the ecological expansion of early *Homo* across the planet. This continuing dynamic, the 'feedback' between neural and behavioural plasticity, established the neurobiological, social, cognitive, and ecological basis in human populations for a capacity for belief (Fuentes 2022: 2; cf. Corbey 2020; Tomasello 2019). Thereafter, common beliefs, and eventually belief systems emerged, via the connections and exchanges created by the 'ratcheting up' of ecological and social complexity, coupled with increased interactions among populations over the last 200 000–400 000 years (Fuentes 2022:2; cf. Kissel & Fuentes 2021). An increase in, and eventual overwhelming occurrence of art, symbol, and meaning-making in human populations are indicated by material evidence over the last few hundred thousand years (see Deacon 2016; Fuentes 2017; Sykes 2020). It is during this process that humans evolved the capacity for conceptual innovation and imagination. Fuentes (2019:45) describes 'meaning-making' as the capacity to think anew and create material realities out of these novel thoughts. Suggestions of meaning-making in the human past offer material evidence for when and how humans may have evolved the capacity for transcendent experiences that

establish powerful, persuasive, and long-lasting moods and motivations – the starting point for religious experience.²

Two significant processes emerged as a result of these cognitive processes. Firstly, the imagining of new items and either manufacturing them or altering other things to become them (Fuentes 2022:2). This capacity is observable in a limited form in other animals. However, by the middle to late Pleistocene, it became permanently and extensively part of the human niche. Secondly and relying on the first, over the past few hundred thousand years of human history, as part of our comprehensive communicative and semiotic capacities, humans began generating explanations of broadly observable phenomena, such as the behaviour of other animals, death, weather, or the sun and moon (Fuentes 2022:4). Early humans did not, for example, only relate clouds, rain, thunder, and floods, they also created accounts for why these phenomena occur (see Deacon 1997, 2016; Fuentes 2017, 2019, 2022; Henrich 2016; Tomasello 2014). Referring to this capacity, Bloch (2008:2056) argues that through the course of human evolution, we developed from socially complex transactional beings, like most other primates and social mammals, to groups of organisms who exist concurrently in both transactional and transcendent realities, and who rely on imagination and belief to restructure themselves and the world around them.

It is important to note that the boundaries to, and shape of the human niche are not always material or limited by direct representation. Humans are therefore receptive to influence – with potentially evolutionarily relevant implications – from transcendent experiences in addition to specifically prompted or materially experienced ones (Fuentes 2020:15).

This is an important perspective for theologians and philosophers engaging with evolutionary theory and palaeoanthropological approaches to being human. Various scholars valuing transdisciplinary study on being human, such as Deanne-Drummond & Fuentes (2020), Van Huyssteen (2006) and Fuentes (2020), believe that it offers a possible link of shared focus wherein contributions from the perspective of theologians and philosophers can substantially contribute in developing profound understandings of how humans can, do, and have engaged with perceptual realities that are infused with notable features that are not necessarily rooted in material experience or contexts. In the light of this sort of transdisciplinary discourse on the emergence of religion, Van Huyssteen (2006:267) suggests that theologians are faced with

²Early examples of meaning-making in Homo groups are rare. In their overview of the currently available data, Kissel and Fuentes (2017) called them 'glimmerings', sporadic and potentially isolated occurrences that demonstrate that early humans had the capacity to create items that contained a particular pattern of meaning but that the context for shared and sustained meaning-making was not yet present. However, it was just around the corner (Fuentes 2019). In this regard, it is necessary to take into account recent evidence for possible burials, as intentional burial is almost certainly associated with meaning and belief (Fuentes 2019). One example – more than 200 000 years old – is fairly close to 'home' and a recent discovery in South Africa, the Dinaledi chamber. Between 236 000 and 335 000 years ago, a group of small and slight members of genus *Homo* called *Homo naledi* carried their dead deep into an underground chamber and deposited them there (Dirks et al 2015). The chamber in which the remains were discovered is tremendously difficult to reach, more than 100 feet underground and requiring climbing, crawling and squeezing through very narrow passages. They also had to drag the deceased with them. And yet these members of genus *Homo* risked much to venture into the darkness and place these remains in a small chamber deep inside the cave (Fuentes 2019).

the responsibility to acknowledge the fact that our capacity to respond religiously to ultimate questions – through various forms of prayer and worship – is deeply embedded in our capacity for imaginative and symbolic behaviour, and in the embodied minds that make such behaviour possible.

Belief and human culture

The exploration of the evolutionary history of humans offers limited insight into contemporary institutionalised religions. It does not give us insight as to *how* we believe. At the core of *how* we believe is the human reality of culture. Culture is both a product of human actions and a phenomenon that shapes those actions. It is the framework, the context that embodies and provides meaning to our experiences of the world. As the biologist Kevin Laland (2017) explains, 'it is what makes the human mind possible'.

Even though many organisms have some form of culture, human culture is noticeably unique (Whiten 2021:1). Human culture influences how humans do just about everything: eating, cooperating, reproducing, fighting, perceiving, innovating, interacting, manufacturing and utilising technology, experiencing emotions, expressing ourselves, and a multitude of other cognitive and behavioural processes and events (Fuentes 2022:4). Culture is an essential component of the human niche and makes human being and human reason possible (Laland 2017:14).

Cultural contexts, which can also be described as the 'webs of significance' that are symbolic meaning, are both perceptually and materially existent for the people within them and therefore it is structurally relevant to, and affected by, evolutionary and societal processes (Fuentes 2022:4). Culture is a capacity and necessity for *H. sapiens*. Therefore, comprehending the mechanisms which contributed to the development of cultural processes, how these processes function and how much function affects members and populations of that species itself, is of key importance in any evolutionary explanation of the human mind (Fuentes 2022:4). A fascinating example in this regard is provided by Fuentes (2022):

For example, a stone tool is not relevant to human evolution simply as the combination of a person altering and using a shaped stone but rather requires the fact that a person has a set of beliefs, or concepts, of a tool to begin with. The stone object is given shape but also a functional capacity in affecting the world by being transformed from stone to tool, not just through mechanical modification, but also by an understanding of 'tool' as a concept. Such assemblages of practical and conceptual processes are a cognitive outcome of evolved capacities in the human niche. A human with the tool concept, and beliefs about the tools themselves, is not constrained by existing tools or materials when novel challenges arise. Rather they can try to innovate and find and modify a stone, or other material, into a novel or altered tool for the job. (p. 4)

Similarly, beliefs can shape how behaviour and social interactions affect bodies. A shared cultural belief in monotheism, for example, can influence social organisation and has substantial effects on human functioning, phenotype

or reproduction (Fuentes 2022). Shared cultural belief in monotheism can further be related to deep-rooted social inequality as in many cases it increases the likelihood of large state formation or endurance, and it allows hierarchy and differential resource distribution more likely to occur (see for example Henrich 2020).

Cultural beliefs are significant since they fundamentally and reliably impact the relationships of humans with their environments, the resources available to them (communication, tools, senses), and the conditions of the developmental niche (our maturation) which can have, according to Fuentes (2022:4; cf. 2018; Fuentes 2019), both intra- and intergenerational impact. It becomes evident that the human experience is forged from co-determining, interacting constituents of both cultural and biological processes. Therefore, there seems to be no need to debate either side of exhausted debates on the contribution of both these processes. Cultural beliefs also evolved as an essential part of the distinctive niche humans are born into and wherein they interact with the world and other organisms.

According to Downey and Lende (2012:37), 'cultural concepts and meanings become anatomy' as humans learn to orchestrate themselves through systemic modification in the nervous system, and embeddedness in cultural contexts. Beliefs permeate the minds, bodies, and ecologies of humans and consequently, they generate:

[D]ynamic perceptual and interpretative assemblages that can act either as robust 'enculturating' forces in human social systems or socio-ecologies (our cultures) or disrupt them, facilitating new and/or modified dynamics in perceptual and cultural processes. (Fuentes 2022:1; cf. Downey & Lende 2012; Seitz & Angel 2020)

Therefore belief, the cognitive processes related to belief, as well as the evolutionary history of these processes, is significant in exploring human behaviour and experience. Belief forms the human mind – past, present, and future.

Concluding remarks

This exploration of the emergence of religion indicates that our capacity for imagination and belief preceded it. There is sufficient evidence that long before the first appearance of modern human beings, our human ancestors were evolving ever more complex substantial cognitive and behavioural responses to social and ecological challenges (Fuentes 2017; 2020). With the use and creation of symbols, humans developed a new kind of semiosis at some point during the evolutionary process. Currently, human beings are, therefore, profoundly embedded in a symbolic system where imagination, hope, and the symbols associated with them create meaning, maintain stability, and provide the necessary infrastructure for faith (Fuentes 2017, 2019). Expectations of how people should behave, ideals for fairness and morality, ideals for what the world ought to be like, among others are all good examples of the functioning of such a symbolic system. The ability to think in this way is not necessarily tied to any of the actual detail of the physical world surrounding humans at any given time.

Rather, these thought processes are facilitated by human symbolic abilities. The meaning-laden and symbolic experiences that humans are enculturated by from childhood onwards do, however, have a significant influence on this ability. According to Van Huyssteen (2006), this perspective is an important key to understanding religious thought.

Human beings constructed a niche across their evolutionary history where symbol and imagination functioned as central aspects of their ecology. Religious rituals, structures, and institutions are one way in which the imagination and symbol are deployed in humans. To acquire a more profound notion of the origin of religion, it seems vital to identify the kinds of behaviours, cognitive processes, and structures in our archaeological past that may have improved the role that human symbol use and creation, as well as the human imagination, had in the initial appearances of religious experience, ritual, belief, and their associated institutions (Serfontein 2018).

Van Huyssteen (2017:ad loc) reminds us of the limitations that arise in exploring the capacity to be religious. Neither biology nor the neurosciences can adequately explain the religious experience. An experience can only be interpreted, identified, and consequently qualified as religious or not by the religious person. Such an awareness of the limitations of scientific explanations illuminates the methodological need for an interdisciplinary approach, as well as the indispensable role that theologians can play, in the exploration and explanation of religion and religious experience.

This research further indicates that the origin of religion can be found neither in adaptations through natural selection nor in viewing religious belief as a mere byproduct of human cognitive complexity. Rather, the origin of, and capacity for, religious belief is a result of the interactive way humans throughout evolutionary history have navigated the world around them. The development of human imagination and the manifestation of a quest for meaning as a vital part of the human niche are indeed an essential precursor to having the capacity for religious belief. For Christian theologians, this offers a stimulating bottom-up view of the marvellously complex way in which God has created and prepared the human species to be mentally, physically, and spiritually 'equipped' for faith. A species capable of worshipping God, of receiving the word made flesh.

A final note concerning how a more comprehensive understanding of the origin of religious awareness might aid us in our exploration of the history of morality.

As mentioned in the introduction, there is still a widespread assumption that religion and morality are synonymous, which can be considered a top-down view of morality. Divine Command Theory is one of the well-known theories in this perspective, which is the view that moral obligation is obedience to God's commands, and morality is by some means dependent upon God. Naturally, the content of these

divine commands differs according to different religions and religious traditions. Given the notion that moral awareness – like consciousness, imagination, sexuality, language, and religious disposition – is one of the most distinctive traits of being human, I am not convinced, that the origin of morality could be best understood from a top-down perspective. This research indicates that it is within the framework of our unique human niche that profound insights into the origin of religious and moral awareness can be found. Exploring the origin of the human capacity for moral awareness and employing evolutionary theories, might bring us closer to a more responsible notion of morality and ethics. It is important to bear in mind that even though religion is not the source of our capacity for moral awareness, through history, religion has played and still plays a profound role in how and why we make certain moral judgements.

Last, the abovementioned findings can be considered as motivation and an invitation for Christian theologians to acquire a more comprehensive understanding of crucial aspects of being human like religious and moral awareness to construct a more responsible notion of ethics. The challenge, however, is to determine how different ethical issues especially institutionalised religions will be approached with a deepened understanding of religious and moral awareness, rooted in nature.

Acknowledgements

Sections of this manuscript are published in the author's thesis entitled 'Imagination, religion, and morality: An interdisciplinary approach' submitted in fulfilment of the requirements for the degree of PHILOSOPHIAE DOCTOR in the Department of Dogmatics and Christian Ethics, Faculty of Theology and Religion, University of Pretoria, South Africa, in September 2018 with supervisor: Prof. Dr D.P. Veldsman. It is available here: https://repository.up.ac.za/bitstream/handle/2263/71030/Serfontein_Imagination_2018.pdf?sequence=1&isAllowed=y.

Competing interests

The author declare that they have no financial or personal relationships that may have inappropriately influenced them in writing this article.

Author's contributions

B.S. is the sole author of this research article.

Ethical considerations

This article followed all ethical standards for research without direct contact with human or animal subjects.

Funding information

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Data availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Disclaimer

The views and opinions expressed in this article are those of the author and are the product of professional research. It does not necessarily reflect the official policy or position of any affiliated institution, funder, agency, or that of the publisher. The author is responsible for this article's results, findings, and content.

References

- Alcorta, C. & Sosis, R., 2003, 'Signaling, Solidarity, and the Sacred: The Evolution of Religious Behavior', *Evolutionary Anthropology* 12(6), 264–274. <https://doi.org/10.1002/evan.10120>
- Antón, S.C. & Kuzawa, C.W., 2017, 'Early homo, plasticity and the extended evolutionary synthesis', *Interface Focus* 7(5), 20170004. <https://doi.org/10.1098/rsfs.2017.0004>
- Antón, S.C., Potts, R. & Aiello, L.C., 2014, 'Human evolution. Evolution of early Homo: An integrated biological perspective', *Science* 345(6192), 1236828. <https://doi.org/10.1126/science.1236828>
- Bloch, M., 2008, 'Why religion is nothing special but is central', *Philosophical Transactions of The Royal Society B: Biological Sciences* 363(1499), 2055–2061. <https://doi.org/10.1098/rstb.2008.0007>
- Boyer, P. & Bergstrom, B., 2008, 'Evolutionary perspectives on religion', *Annual Review of Anthropology* 37, 111–130. <https://doi.org/10.1146/annurev.anthro.37.081407.085201>
- Corbey, R., 2020, 'Baldwin effects in early stone tools', *Evolutionary Anthropology* 29(5), 237–244. <https://doi.org/10.1002/evan.21864>
- Deacon, T.W., 1997, *The symbolic species: The co-evolution of language and the brain*, W.W. Norton, New York, NY.
- Deacon, T., 2016, 'On human (symbolic) nature: How the word became flesh', in T. Fuchs & C. Tewes (eds.), *Embodiment in evolution and culture*, pp. 129–149, Mohr Siebeck, Tbingen.
- Deanne-Drummond, C. & Fuentes, A. (eds.), 2020, *Theology and evolutionary anthropology: Dialogues in wisdom, humility and grace*, Routledge, New York, NY.
- Dirks, P.H.G.M., Berger, L.R., Roberts, E.M., Kramers, J.D., Hawks, J., Randolph-Quinney, P.S. et al., 2015, 'Geological and taphonomic context for the new Hominin species *Homo naledi* from the Dinaledi Chamber, South Africa', *Elife* 4, 09561. <https://doi.org/10.7554/eLife.09561.001>
- Downey, G. & Lende, D.H., 2012, 'Evolution and the brain', in D.H. Lende & G. Downey (eds.), *The encultured brain: An introduction to Neuroanthropology*, pp. 103–138, MIT Press, Cambridge, MA.
- Foley, R.A., 2016, 'Mosaic evolution and the pattern of transitions in the hominin lineage', *Philosophical Transactions of the Royal Society B: Biological Sciences* 371(1698), 20150244. <https://doi.org/10.1098/rstb.2015.0244>
- Fuentes, A., 2014, 'Human evolution, niche complexity, and the emergence of a distinctly human imagination', *Time and Mind* 7(3), 241–257. <https://doi.org/10.1080/1751696X.2014.945720>
- Fuentes, A., 2015, 'Niche construction and religious evolution', *Oxford Research Encyclopedia of Religion*. <https://doi.org/10.1093/acrefore/9780199340378.013.30>
- Fuentes, A., 2015, 'Niche Construction and Religious Evolution', *Oxford Research Encyclopedia of Religion*, viewed 15 February 2024, from <https://oxfordre.com/religion/view/10.1093/acrefore/9780199340378.001.0001/acrefore-9780199340378-e-30>.
- Fuentes, A., 2017, *The creative spark: How imagination made humans exceptional*, Penguin Random House LCC, New York, NY.
- Fuentes, A., 2018, 'Lecture five: Why do we believe? A human imagination and the emergence of belief systems', *Gifford Lectures Blog*, viewed 26 August 2022, from <https://blogs.ed.ac.uk/gifford-lectures/2018/03/07/lecture-five-why-do-we-believe-a-human-imagination-and-the-emergence-of-belief-systems/>.
- Fuentes, A., 2019, *Why we believe: Evolution and the human way of being*, Yale University Press, New Haven, CT.
- Fuentes, A., 2020, 'Setting the stage developing the human niche across the Pleistocene', in C. Deanne Drummond & A. Fuentes (eds.), *Theology and evolutionary anthropology: Dialogues in wisdom, humility and grace*, pp. 13–28, Routledge, New York, NY.
- Fuentes, A., 2022, 'Evolving belief, evolving minds: Evolutionary insights into the development and functioning of human society', *Frontiers in Behavioral Neuroscience* 16, 928297. <https://doi.org/10.3389/fnbeh.2022.928297>

- Henrich, J., 2016, *The secret of our success: How culture is driving human evolution, domesticating our species, and making us smarter*, Princeton University Press, Princeton, NJ.
- Henrich, J., 2020, *The WEIRDest people in the world: How the west became psychologically peculiar and particularly prosperous*, Farrar, Straus and Giroux, New York, NY.
- Johnson, D. & Bering, J., 2006, 'Hand of god, mind of man: Punishment and cognition in the evolution of cooperation', *Evolutionary Psychology* 4(1), 219–233. <https://doi.org/10.1177/147470490600400119>
- Kissel, M. & Fuentes, A., 2017, 'Semiosis in the Pleistocene', *Cambridge Archaeological Journal* 27(3), 1–16. <https://doi.org/10.1017/S0959774317000014>
- Kissel, M. & Fuentes, A., 2021, 'The ripples of modernity: How we can extend paleoanthropology with the extended evolutionary synthesis', *Evolutionary Anthropology* 30(1), 84–98. <https://doi.org/10.1002/evan.21883>
- Kuzawa, C.W., Chugani, H.T., Grossman, L.I., Lipovich, L., Muzik, O., Hof, P.R. et al., 2014, 'Metabolic costs and evolutionary implications of human brain development', *Proceedings of the National Academy of Sciences of the United States of America* 111(36), 13010–13015. <https://doi.org/10.1073/pnas.1323099111>
- Laland, K.N., 2017, *Darwin's unfinished symphony: How culture made the human mind*, Princeton University Press, Princeton, NJ.
- Laland, K.N., Uller, T., Feldman, M.W., Sterelny, K., Muller, G.B., Moczek, A. et al., 2015, 'The extended evolutionary synthesis: Its structure, assumptions and predictions', *Proceedings of the Royal Society B: Biological Sciences* 282(1813), 20151019. <https://doi.org/10.1098/rspb.2015.1019>
- Marks, J., 2015, *Tales of the ex-apes: How we think about human evolution*, UC Press, Berkeley, CA.
- Norenzayan, A., 2015, 'Does religion make people moral?', *Behaviour* 151, 365–384. <https://doi.org/10.1163/1568539X-00003139>
- Rappaport, R.A., 1999, *Ritual and religion in the making of humanity*, Cambridge University Press, Cambridge.
- Seitz, R.J. & Angel, H.F., 2020, 'Belief formation – A driving force for brain evolution', *Brain and Cognition* 140, 105548. <https://doi.org/10.1016/j.bandc.2020.105548>
- Serfontein, B., 2018, 'Imagination, religion, and morality: An interdisciplinary approach', PhD thesis, University of Pretoria.
- Sosis, R., 2009, 'The adaptationist-byproduct debate on the evolution of religion: Five misunderstandings of the adaptationist program', *Journal of Cognition and Culture* 9, 315–332. <https://doi.org/10.1163/156770909X12518536414411>
- Sosis, R. & Alcorta, C., 2003, 'Signaling, solidarity, and the sacred: The evolution of religious behavior', *Evolutionary Anthropology* 12, 264–274. <https://doi.org/10.1002/evan.10120>
- Southgate, C., 2022, 'God and a world of natural evil: Theology and science in hard conversation', *Journal of Religion & Science* 57(4), 1124–1134. <https://doi.org/10.1111/zygo.12849>
- Sykes, R.W., 2020, *Kindred: Neanderthal life, love, death and art*, Bloomsbury Sigma, London.
- Tomasello, M., 2014, *A natural history of human thinking*, Harvard University Press, Cambridge, MA.
- Tomasello, M., 2019, *Becoming human: A theory of ontogeny*, Harvard University Press, Cambridge, MA.
- Van Huyssteen, J.W., 2006, *Alone in the world: Human uniqueness in science and theology*, Wm. B. Eerdmans, Grand Rapids, MI.
- Van Huyssteen, J.W., 2016, 'Rethinking the theory of evolution: New perspectives on human evolution and why it matters for Theology', *HTS Teologiese Studies/Theological Studies* 72(4), a3664. <https://doi.org/10.4102/hts.v72i4.3664>
- Van Huyssteen, J.W., 2017, 'Lecture one: Rediscovering Darwin for theology – Rethinking human personhood', *HTS Teologiese Studies/Theological Studies* 73(3), a4485. <https://doi.org/10.4102/hts.v73i3.4485>
- Van Huyssteen, J.W., 2018, *Human origins and the emergence of morality and religion*, Gifford Lecture Series 2018.
- Wake, D.B., Hadley, E.A. & Ackerly, D.D., 2009, 'Biogeography, changing climates, and niche evolution', *Proceedings of the National Academy of Science* 106(2), 19631–19636. <https://doi.org/10.1073/pnas.0911097106>
- Whiten, A., 2021, 'The burgeoning reach of animal culture', *Science* 372(6537), eabe6514. <https://doi.org/10.1126/science.abe6514>