# IMAGINATION, RELIGION, AND MORALITY: AN INTERDISCIPLINARY APPROACH

By

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# ABSTRACT

Every human society as well as almost all of human life is infused with ethics. How do we best understand human morality and ethics? I believe responsible ethics rests on a credible understanding of what it means to be human. This thesis proposes that a more comprehensive understanding of the distinctive human imagination, religious awareness, and morality – all of which are significant aspects of being human – will facilitate a more responsible understanding and practice of ethics. Such an understanding entails a bottom-up view, which takes seriously the exploration of the fundamental evolutionary realities of human nature, i.e. a natural history of morality. The quest for understanding the propensity for imagination, religious awareness and morality can be aided by exploring the core role of the evolutionary transition between becoming and being human. Accordingly, this thesis combines a niche construction perspective with fossil and archaeological evidence, highlighting the role of complexity in human evolution, which adds to our understanding of a completely human way of being in the world. A short overview of human evolution in this thesis reveals the substantial impact of changes in behaviour, bodies, and life histories in our human ancestors and ourselves today. The interactive process of niche construction emphasizes a dialectical relationship between organisms and their environments, a process by which organisms modify their own and each other's evolutionary niches. A distinctively human imagination is part of the explanation for human evolutionary success and accordingly our sense of morality and religious disposition. The methodology this thesis applies is that of an interdisciplinary study combining perspectives of some of the most prominent voices in the modern discourses on imagination, religious awareness, and morality such as Agustín Fuentes, Celia Deane-Drummond, Frans De Waal, Michael Tomasello, Steven Mithen, and Wentzel Van Huyssteen. What results from this approach is, first, a more comprehensive understanding of the human imagination, the capacity for religious awareness and morality. Ultimately, by creatively integrating the various perspectives evident in this study – by way of a philosophical bridge theory between evolutionary anthropology and theology – this thesis attempts to determine whether evolutionary thought can be constructively appropriated to interdisciplinary Christian theology and ethics.

# KEYWORDS

Imagination

Religion

Religious Awareness

Morality

Ethics

Evolution

Evolutionary Biology

Niche Construction

Interdisciplinary Theology

Philosophy

# CHAPTER 1

# IMAGINATION, RELIGION, AND MORALITY

## 1.1 INTRODUCTION

Ethics permeates every human society and almost all of human life. We consider long and carefully about how we should act on specific occasions, about the kinds of lives we should aspire to lead, and about what behaviour should be acceptable or not in particular societies. In indirect ways, our day-to-day actions involve habits of conduct, roles, and institutions present in our societies. In *The Autobiography of Charles Darwin* (Barlow 1958: ad loc.) we find the following statement:

> A man who has no assured and ever present belief in the existence of a personal God or of a future existence with retribution and reward, can have for his rule of life, as far as I can see, only to follow those impulses and instincts which are the strongest or which seem to him the best ones.... If he acts for the good of others, he will receive the approbation of his fellow men and gain the love of those with whom he lives. – Charles Darwin (1809-1882)

One can argue that Darwin, in the 19th century, managed to address an issue that is still dominant today in the ongoing debate between science and theology: How does one best understand the origin of human morality? Why do humans attempt to define what is right and what is wrong about their actions and thoughts? Why do people try to express what is good or bad about their being who they are? Why do people show kindness to others, even those outside their families, when they do not stand to benefit from it? Why do people feel guilty about certain actions? Are we the only creatures that engage in this way of thinking, doing and discerning? These are just some of the questions that call on the phenomenon of morality and ethics.

There is still a popular assumption that religion and morality are synonymous, which is known as a top-down view of morality. This study agrees with some of the most

prominent scholars in the field, such as primatologist Frans De Waal, developmental and comparative psychologist Michael Tomasello, and theologians Celia Deane-Drummond and Wentzel Van Huyssteen, who argue that the human capacity for moral awareness is built into our species. Rather than coming to us top-down from God, or any other external source, moral awareness, in their view, arises bottom-up from our capacity for empathy, cooperation and our day-to-day social interactions, which evolved through the course of our hominin history. I believe by exploring the evolution of both our capacity for religious awareness and morality, we might come to surprising conclusions to the question: which evolved first, morality or religion? This might influence our way of thinking about ethics, and in this case specifically Christian ethics. In accordance with Van Huyssteen (2017a) and Fuentes (2014a), I want to argue that it is our unique capacity for imagination that underpins our capacity for moral and religious awareness. Consequently, in my attempt to arrive at a more comprehensive understanding of human morality, and how it relates to ethics, I am going to explore the evolution of our distinctive imagination and how it might have laid the groundwork for the development of both religious awareness and morality.

Questioning the human capacity to be religious, apply moral reasoning and the function of the imagination in doing so in essence entails questions about the distinctiveness of the human species. In the present day scholars from various and extremely diverse fields are not only addressing the question of what makes us human or what it means to be a 'self', but they are also seeking input from other disciplines to inform their answers to this fundamental issue (Calcagno et al. 2012:182). Theologian, Wentzel Van Huyssteen (2016:1), argues that these scholars are also trying to discern what this question might mean for theology and especially the Christian faith. Yet many theologians also ignore anthropological studies and the centrality of evolutionary perspectives.

The theologian Stephen Pope (2007:1) also stresses that scientists and other scholars over the last three decades have produced a significant body of literature dealing with "evolutionary ethics," but Christian ethics has for the most part ignored it. Pope (2007:2) argues that regardless of various complications, Christian ethics and evolutionary theories are in principle compatible with one another. Diverse viewpoints do not have to compete with one another if interpreted properly. If one accepts the

axiom that, ultimately, "truth cannot conflict with truth," then, Pope (2007:2) believes, "one can argue that the knowledge provided by the natural sciences, including that pertaining to human evolution, is consistent with, and can help to shed light on, the truth affirmed in Christian faith." Theologian John Haught (2010: xv) mentions that Darwin influenced our understanding of almost everything related to theology and stresses the immense worth of evolutionary biology to Christian theology. The revolutionary and ragged vision of life, provided by evolutionary biology, has to be taken into account in any realistic theological understanding of God, the natural world, human identity, morality, sin, death, redemption and the meaning of life (Haught 2010:xv). The question is not how to justify evolutionary biological views on human distinctiveness in theological discussions, but how to justify excluding them.

Theological discourse can, however, also not afford to be exclusively anthropocentric as the evolutionary changes of human beings may involve interspecies relationships. According to Deane-Drummond and Fuentes (2014:251), an analysis of both the common ground and the differences between humans and other animals in their entwined evolutionary histories offers a stimulating platform for a theological anthropology that is aware of interspecies relationships and not isolated from them. Theological anthropology, as argued by Van Huyssteen (2006: xiv), has much to learn from studying human origins, from the dimension of meaning in which *Homo Sapiens* has always existed, and from the close relationship between the human species and other animals. Furthermore, theology could perhaps suggest to science the interdisciplinary relevance of those elusive yet distinctively human characteristics that do not fossilize but are crucial for defining the human condition (Van Huyssteen 2006:xv).

The simple, basic question of human distinctiveness is in fact tremendously complex. Veldsman (2016:4) in reference to Franklin (2012) points out that within contemporary science and theology at least four main issues are currently being addressed in the interdisciplinary conversation on human (embodied) personhood: identity vs multiplicity; human uniqueness; the evolution of the self; and emergence theory. I

would like to make a few short remarks on the issues of human uniqueness and the evolution of the self or human personhood, as discussed by Veldsman (2016:4):[1]

1) *Human uniqueness.* There is some variance in terminology among scholars in referring to the conversation on what makes us as humans different from other species. On the one hand, some scholars have a preference for the concept of distinctiveness to that of uniqueness. This is due to the opinion that 'distinctiveness' emphasises the biological continuity of humans with other animals in such a way that it constitutes a quantitatively higher degree of human complexity. On the other hand, the notion of uniqueness is preferred for scholars who wish to accentuate the qualitative differences that have emerged from lower systems, for example, language, which point to a difference in both degree and kind. Most scholars agree that the use of either of these terms does not intend to promote human superiority over the rest of creation. The interconnectedness of humans with all other forms of life should always be emphasized in any responsible discussion on the uniqueness of human beings.

2) *The evolution of the self or (embodied) personhood* is considered as one of the key themes in contemporary discourses in science and theology. There is a high level of consensus in current discussions that human beings evolved biologically from lower ancestral forms. This line of thought does, however, raise a considerable amount of concern in more conservative Christian groups. This is due to the notion that evolutionary theories could threaten the concept of the inspiration of the Bible, the Fall narratives and the concept of the *Imago Dei.* On the contrary, some of the most renowned interdisciplinary theologians like Van Huyssteen (2006) and Deane-Drummond (2014) are of the opinion that responsible evolutionary theories can only enrich and offer positive contributions to theologians exploring questions regarding what it means to be a self or embodied personhood.

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[1] For a more detailed discussion on all four of these issues see Veldsman (2016) and Franklin (2012). The recent publication *Issues in Science and Theology: What is Life?* (2015) – edited by Dirk Evers, Michael Fuller, Antje Jackelén and Knut-Willy Sæther – offers some brilliant essays on the issues involved in exploring human personhood.

From the abovementioned brief description of only two of the many issues concerning interdisciplinary discussions on human distinctiveness it is clear that combining perspectives from science and theology on human personhood is not that simple. Calcagno et al. (2012:194) mention that an evolutionary perspective is most definitely required in answering the important question on what it means to be human. However, an evolutionary perspective makes the question much more complicated. This is due to the notion that there is no point in history where a generation of humans' parents can be identified as nonhumans. Humans are connected to their species in various ways and therefore great caution is necessary when trying to distinguish the human species from all other species without recognizing the core continuities (Calcagno et al. 2012:194). One popular way of defining human distinctiveness, according to Van Huyssteen (2016:1), is to make a clear distinction between anatomical and behavioural differences. Fuentes (2009a:3) emphasizes the importance of behaviour: "Behaviour matters. It is what humans do. We have a self-awareness, a cognitive complexity, and an ability to reflect on ourselves, which is not available to other animals." Our unique capacity to imagine enabled our ability to self-reflect. I believe it is in this very act of reflecting on ourselves that an ethical space arises. A space in which moral reasoning functions. In this interdisciplinary study combining science and theology, I will seek to explore our human capacity for imagination, religious awareness and morality. The study will commence with a short overview of contemporary theories of evolution as well as presenting a brief history of human evolution, which will form the framework against which the rest of the study will unfold. I will then discuss the evolution of respectively imagination, religious awareness, and morality. The study will conclude with an attempt to integrate all of the perspectives explored by means of philosophical perspectives that might provide a possible bridge theory from scientific insights to interdisciplinary theology. The relation to ethics, more specifically Christian ethics, will also be explored.

## 1.2 PROBLEM STATEMENT

This thesis wants to enquire whether contemporary theories of human evolution might provide important bridge theories to theological anthropology and thus to a positive and constructive way of appropriating multi-disciplinary thought on the origin of morality and religion to Christian ethics. A distinctively human imagination is part of

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the explanation for human evolutionary success. In order to understand the emergence of morality and religion, it seems important to find points of connection across explanatory frameworks whose foci lie outside of very specific explanations for morality, religion or any particular religious tradition. It may very well be that there is a "naturalness" to the human imagination that facilitates engagement with, and being in, the world in some ways that are distinct from those in other animals, even our closely related hominins. Is it possible that there might be a relationship between the "naturalness" of the human imagination, religion, and morality, and how could that relationship be defined? If this is indeed the case, it provides a small, and hopefully fruitful, addition to the toolkit of inquiry for those interested in reconstructing the path to humanity and a responsible ethics.

## 1.3 LITERATURE REVIEW AND RESEARCH GAP

Exploring the human imagination, morality and religion inevitably leads to questioning the evolutionary success of the human species. Considering questions of human evolution and its broader impact on anthropology, Van Huyssteen (2016:2) suggests that we should rethink which evolutionary approaches would be most suitable in the light of more recent research in this field. Is the way we understand human evolution today compatible with that of Charles Darwin and Neo-Darwinism? It is important to notice that some evolutionary anthropologists now indeed find distinctions between 'Darwinian' and 'Neo-Darwinian' thinking unhelpful in many of the current evolutionary theories of interest (Van Huyssteen 2016:2). Consequently they argue that the expansive body of research and theory that is not captured by these labels should be taken into serious consideration (Fuentes 2009b:12). In short, basic Darwinian theory highlights natural and sexual selection as the leading factors in evolutionary change and the emergence of adaptations (Van Huyssteen 2016:2; Fuentes 2009b:12). On this point Fuentes (2009b:12) and others (Ingold 2001, 2007; Marks 2004) are quite clear that anthropology in general and anyone interested in exploring human evolution should be concerned with evolutionary theory and incorporate relevant perspectives well beyond those that focus exclusively on the action of natural and sexual selection. Fuentes (2009b:13) highlights at least three recent developments in evolutionary theory, namely, multi-inheritance systems theory, developmental systems theory, and

niche construction theory – all of which offer fertile areas for anthropology and interdisciplinary approaches to human evolution.

The biologists Eva Jablonka and Marion Lamb (2005) are of the opinion that a renewal in evolutionary theory is necessary, a 'new' new synthesis in how we model evolution. Their (Jablonka & Lamb 2005:1) basic assertion is that biological thinking about inheritance and evolution is undergoing a revolutionary change. The 'new' synthesis, according to Jablonka and Lamb (2005:1), challenges the gene-centred version of Neo-Darwinism that has dominated biological thinking for roughly the last fifty years. The conceptual changes taking place are grounded in knowledge from nearly all branches of biology. With a specific focus on inheritance, Jablonka and Lamb (2005:1) argue that there is more to inheritance than genes; some inherited variations are non-random in origin, some acquired information is inherited, and evolutionary change can result from instruction as well as selection. Fuentes (2009b:13) points out that Jablonka and Lamb's (2005) thesis argues for recognition of evolution in not one, but four, 'dimensions'. This differs greatly from the scholars adopting the traditional Neo-Darwinian approaches whose focus is on only one system of inheritance, the genetic. As Fuentes (2009b:13) explains:

> The majority of hypotheses proposed for scenarios of the selection and adaptation of human behaviour (as a phenotype) rely on, or are derived from, perspectives based on explanations of causal factors at the level of the DNA, some proxy for genic effect, or an assumption of some unidentified link to genetics.

In opposition to this view, Jablonka and Lamb (2005) argue for a novel perspective considering three other inheritance systems which might also play instrumental roles in evolutionary change, namely the *epigenetic*, *behavioural* and *symbolic inheritance systems*. Following Jablonka and Lamb (2005:1-8; cf. Van Huyssteen 2016:3),

epigenetic inheritance[2] is evident in all organisms, behavioural inheritance[3] is evident in most organisms, and symbolic inheritance is only found in humans. Van Huyssteen (2016:3) states that this constructivist view moves beyond standard Neo-Darwinian approaches and consequently acknowledges that various organisms transfer information through behaviour, therefore affirming that the acquisition of evolutionarily relevant behavioural patterns can occur via socially mediated learning.

Symbolic inheritance, according to Van Huyssteen (2016:4), is facilitated by language and the ability to creatively participate in information transmission that can be complex and involve a high density of information. The explanation for what makes the human species so unique, and what makes us human, can be found in our ability to organise, transfer and acquire information (Van Huyssteen 2016:4). Therefore, our unique ability to think and communicate through words and other sorts of symbols makes us a profoundly different kind of niche constructor. Following this line of thought, then, according to Jablonka and Lamb (2005:193-231), rationality, linguistic capacity, artistic capacity, the moral sense and the capacity to be religious are all aspects of symbolic thought and communication.

With regards to human cultural evolution, Jablonka and Lamb (2005:222ff.) argue that it is necessary to recognise that the environment plays an interactive part in the creation of cultural traits and entities, as well as their selection and construction. Jablonka and Lamb's (2005) thesis reveals that there is much more to evolution than merely the inheritance of genes. Furthermore, for Van Huyssteen (2016:4), such an interactionist perspective blurs any clear prioritisation in inheritance systems and,

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[2] On a cellular level, epigenetic differences are the results of events that took place in the developmental history of each type of cell that determined which genes are turned on, and how they act and interact. Therefore, even though their DNA sequences remain unchanged during development, cells still obtain information that they can pass on to their descendants. This information is passed on through epigenetic inheritance systems (EISs). It is these systems that make the second dimension of inheritance and evolution possible (cf. Jablonka & Lamb 2005:113).

[3] With regard to behaviour inheritance, Jablonka and Lamb (2005:155ff) argue that the capability to learn has in fact evolved genetically; however, the act of learning itself is now also recognised as a medium of evolutionary change. As a result, cultural evolution in animals, and consequently in humans, can be complex, cumulative and gradual, and it involves various different aspects of behaviour (Jablonka & Lamb 2005:180).

therefore, necessitates an intentional move away from approaches that are limited to either biological or social focuses. Van Huyssteen (2016:4; cf. Fuentes 2009b:14) notes that in this perspective 'evolution as interactive construction' is the concept that evolution is never simply a matter of biologically developing organisms, but also a matter of "organism – environment systems interacting and changing over time in a dynamic interactive process of niche construction as a significant evolutionary force alongside natural selection." Fuentes (2009b:14) explains that in the interaction between organisms and their environment, niche construction occurs as a process in which biological, ecological and social-cultural spheres interact and as a result provide a medium for human genetic and cultural evolution by combining three dimensions: genetic processes, ontogenetic processes and cultural processes. The origin of the human imagination, capacity for religious awareness and morality should be explored against the background of this more comprehensive evolutionary theory. I will therefore discuss the concept of niche construction in more depth in the following chapter.

For Fuentes (2014a:241), part of the explanation for the evolutionary success of the human species is indeed a distinctively human imagination. Steven Mithen (2001:28), British archaeologist, states that the imagination is one of those critical capacities of the human mind that defies sufficient definition. It is inadequate to describe imagination merely as "creative, conscious, thought," since each of these components remains vague (Mithen 2001:28). According to the *Stanford Encyclopaedia of Philosophy* (Gendler 2016: ad loc.), the act of imagining something is to form a certain kind of mental representation of that particular thing. Usually imagining is distinguished from mental states such as remembering, believing and perceiving on the grounds that imagining something does not require that particular something to be or have been the case, while the other states do. Imagining is also differentiated from the mental states, anticipating or desiring, in that imagining something does not require that the subject wish or expect something to be the case, whereas the other mental states do. It is also set apart from mental states such as supposing and conceiving on the basis that imagining something entails some sort of quasi-sensory or positive representation of something, whereas both the states of supposing and conceiving do not. It can be argued that definitions for 'imagination' are avoidable, because there is an intuitive understanding of this particular phenomenon. This also applies to the safe assumption

that all people, except those with cognitive pathologies, engage in the same types of mental activities that are considered to be acts of imagination. Mithen (2001:28) asserts, however, that a definition becomes necessary in order to determine when and how this extraordinary capacity of the human mind evolved. It is believed without hesitation that all living members of the human species have a capacity for imagination, and this capacity is in some way part of their genetic make up. It can be said with equal confidence that it is clear that all other species lack the capacity for imagination (Mithen 2001:28).

According to Van Huyssteen (2006), Fuentes (2014a) and others (Deacon 1997; Donald 1993; King 2008; Mithen 2007), being a semiotic species forms an essential part of our evolutionary success. This is due to the use of symbols and the evolution of a distinctive imagination – in our perceptions of and dealing with the world – which act as key factors in our human evolutionary histories. As is suggested by the archaeological and fossil record, our hominin ancestors and relatives did undeniably have imaginative abilities that were applied in their day-to-day living (Mithen 2007:3). Fuentes (2018a) argues that the human imagination is evolutionarily relevant precisely for the reason that the imagination is a significant aspect of lived experience and forms an integral part of our interactive and perceptual reality. Human beings have overcome some of the greatest challenges faced in the past due to our ability to imagine solutions and subsequently realize them through collaborative effort and cooperation (Fuentes 2018a; Mithen 2007). Following Van Huyssteen (2018: ad loc.; cf. 2006), one could accept that at some point during the past 400 000 years hyper-complex intentionality and language facilitated the pinning down of the more-than-material as our permanent state of being. Consequently, the human capacity for imagination formed the necessary groundwork for the evolution of our religious imagination and propensity for belief, our capacity for morality, and the possibility of metaphysics as part and parcel of the uniquely human experience.

Understanding the important relation between human uniqueness and the evolution of religious awareness calls for cross-disciplinary approaches. In the search for grasping the nature of the human self, or personhood, the sciences and theology may find a startling degree of overlapping and a mutual research trajectory (Van Huyssteen 2014:133). Religion plays a profound role in human experience as a whole (Fuentes

2017a:193). Ian Tattersall (1998:201) therefore states that religion cannot be excluded from any discussion of typically human behaviours. Human beings all over the world act religiously, even though there is not necessarily consensus about practice, doctrine and so forth. Religion is a characteristic unique to the human species (Fuentes 2017a:196). In the *Encyclopaedia of science and religion* Rolston (2003:747) defines 'Religion' as that to which a person is most deeply bound. The core of religion entails the conviction that value will be preserved. A central function of religion is, therefore, the conservation of fundamental values (Rolston 2003:747). Fuentes (2017a:196) asserts that to call a person "religious" generally means the person has a certain set of beliefs in a deity or deities and/or a particular ultimate reality. These beliefs usually come with a set of practices. In recent times being religious might refer to belonging to an established religion, or believing in a god or gods not being aligned with a specific religion. Being religious can also refer to a person who accepts a transcendental or spiritual component of life, even though that person does not subscribe to a particular set of beliefs (Fuentes 2017a:196). On the contrary, a wide spectrum of people participate in specific religious rituals, traditions and holidays, but they do not believe in the existence of a god or gods. The question inevitably arises: where and at what point in history did religion start, and what did it develop from? In getting some clarity on the emergence of religion, Fuentes (2014a:242) is of the opinion that it might be closely connected to the development of a distinctly human imagination.

In his book *Alone in the World? Human Uniqueness in Science and Theology,* Van Huyssteen (2006:93ff.) argues from an evolutionary perspective for the *naturalness of religious imagination.* Should there indeed be an evolutionary naturalness to religious imagination and the propensity for belief, then Van Huyssteen (2018: ad loc.) asserts the question should be asked exactly how such an imagination – as a system – emerged over the course of human evolution. Within the framework of a broader view of the many dimensions of evolution that include extensive, interactive niche construction, Fuentes (2014a:249) builds a central thesis in his work:

> The imagination and the infusion of symbolic meaning into the world by the genus Homo in the late Pleistocene … is what underlies and forms a basis for our current ability to develop a metaphysics which in turn facilitates structured religious beliefs. This landscape of meaning and associated imagination is also a system that facilitates

an array of other symbolic and meaning-laden aspects of human behaviour and experience that are core components of our current niche and lives.

Both Van Huyssteen (2018:ad loc.) and Fuentes (2014a:253) argue that in an evolutionary context neither religion nor religiosity could all of a sudden appear completely developed, and it is therefore necessary to explore the kinds of structures, behaviours, and cognitive processes that might enable the ultimate appearance of such patterns in humans. Van Huyssteen (2018: ad loc.) is of the opinion that there is indeed a naturalness to religious imagination, and consequently religious awareness, which challenges any perspective that would want to view religion or religious imagination as a random or obscure faculty of the human mind. In this view, we are also challenged to reconsider the relation between religion and morality. Can we still maintain a view of morality that entails some sort of Divine command? I believe a more comprehensive understanding of the origin of religious awareness contributes to a bottom-up approach to the origin of morality.

Until recently, conversations on the origin of morality were dominated by theories such as the *natural law moral theory*, and the *Divine command theory.* The Internet Encyclopaedia of Philosophy (Himma 2017: ad loc.) explains that according to the natural law moral theory, the moral standards that govern human behaviour are, in some sense, objectively derived from the nature of human beings and the nature of the world. Roughly, the Internet Encyclopaedia of Philosophy (Austin 2017: ad loc.) explains that Divine command theory is the view that morality is by some means dependent upon God, and that moral obligation is obedience to God's commands. This theory includes the claim that morality is ultimately based on the character or commands of God. The content of these divine commands varies according to the different religions and their different views of the individual divine command theorist, but all versions of this theory hold in common the claim that morality and moral obligations ultimately depend on God. Both of these theories adopt a top-down approach to morality.

The view that morality has evolved, which includes the presence of clear pointers to the biological roots of moral behaviour in pre-human history is evident in the work of, amongst others, primatologist Frans de Waal (2006), evolutionary biologist E. O. Wilson (2012), cultural anthropologist Christopher Boehm (2012), comparative and

developmental psychologist Michael Tomasello (2016), and philosophers Richard Joyce (2006), Maxine Sheets-Johnstone (2008) and Philip Kitcher (2011). Within the field of theology the scope of interdisciplinary dialogue with regards to morality has to date not been very extensive. The works of Stephen Pope, John F. Haught, Wentzel Van Huyssteen, and Celia Deane-Drummond however, seek to engage with an interdisciplinary perspective on the origins of morality.

Interdisciplinary theologian, Deane-Drummond (2017:201) emphasizes that one of the greatest challenges in any discussion on the origin of morality is coming to grips with what is meant by the evolution of "morality." Due to it not always being clear what exactly is meant by morality, its appearance in evolutionary history will either remain consistently vague or depend on prior assumptions. Deane-Drummond (2017:201) further argues that biologists are often inclined to use the term "morality" as a shortcut that points to agreed frameworks for types of actions in a certain community, without specifying the particular components that this might involve. This, for example, includes patterns of altruism, consciousness, forms of cooperation, types of justice-making, the appearance of what can be viewed as recognizable virtues, and so forth. For Deane-Drummond (2017:201) morality often appears to be the broadest possible basket into which these various characteristics can be placed. Therefore, it is not always clear what is really meant when an agent is characterized as acting morally or not, except that a given community agrees on specific rules in these different areas.

Following Deane-Drummond's (2017:201) notion, in exploring the origin of morality it is crucial to understand the concept of "morality." In the *Stanford Encyclopaedia of Philosophy*, Bernard and Joshua (2016) provide a definition of morality, but point out that a single definition of morality will not be applicable to all moral discussions. One of the reasons for this is the fact that the word "morality" appears to be used in two distinct broad senses: a descriptive sense and a normative sense (Bernard & Joshua 2016:1). The term "morality" can thus be used, according to Bernard and Joshua (2016:1):

1) either descriptively to refer to certain codes of conduct put forward by a society or a group (such as a religion), or accepted by an individual for their own behaviour,
2) or normatively to refer to a code of conduct that, given specified conditions, would be subscribed to by all rational persons.

In the development of an ethical theory, the specific sense in which a theorist uses the term "morality" plays a crucial role. If "morality" is used in a descriptive sense to refer to codes of behaviour put forward by distinct groups or societies, the universality of morality will be denied. According to Bernard and Joshua (2016:2), anthropologists usually make use of the descriptive sense of "morality" in their reports on the morality of societies that they study. Bernard and Joshua (2016:2) note that some comparative and evolutionary psychologists and primatologists (Haidt 2002; Hauser 2006; De Waal 1996) have observed traces of morality amongst groups of non-human animals. An important remark by Bernard and Joshua (2016:2) is that any definition of "morality" in the descriptive sense must specify which of the codes displayed by a group or society count as moral. Distinctions are often made between morality, law, religion and etiquette, even within small homogeneous societies with no written language. Morality, therefore, cannot refer to every code of conduct present in a society. On the other hand, "morality" in a normative sense refers to codes of behaviour that would be accepted by anyone who meets certain intellectual and self-imposed conditions (Bernard & Joshua 2016:2). This almost always includes the condition of being rational.

An overview of the modern discourse on the origin of morality demonstrates the necessity of combining different perspectives, as no single perspective offers a comprehensive explanation of the origin of morality. Evolutionary biologist E. O. Wilson (2012:328) is of the opinion that a single-discipline exploration within theology, philosophy or the humanities cannot fully determine the origin of morality. The help of the natural sciences, especially evolutionary biology is crucial as it helps explain key aspect of morality such as empathy and altruism. For Wilson (2012:312), altruism can not be sufficiently explained by kin selection; rather it is ultimately a product of group selection and is therefore based on the biological instinct to promote the general wellbeing of the group. In his exploration of the evolution of morality, philosopher Richard Joyce (2006:142) holds the view that the human capacity for morality is an innate and evolved faculty. However, this innate human sense of morality implies a capacity to make moral judgements and does not refer to belief in any specific set of moral codes or judgements. Van Huyssteen (2017b:9) believes Joyce is correct to find the "essence of human morality" in discernment, evaluative judgements and prohibitions – the human capacity to think in moral, normative terms – and not just in

some notion of empathy or trans-kin concern. In *The Roots of Morality* (2008) philosopher Maxine Sheets-Johnstone developed a fascinating thesis on the origin of morality. According to Sheets-Johnstone (2008), the phenomenon of empathy takes us to the evolutionary core of human personhood. Sheets-Johnstone (2008:193) further argues that a key aspect of the evolution of moral awareness is the ability to care, trust, and empathise. It is through empathy that we discover the feelings and values of others and consequently gain access to their mental acts and processes. For Sheets-Johnstone (2008:194) empathy allows us to make sense of each other in ways outside of language. Theologian Stephen Pope (2007:250) begins his discussion of the natural foundations of morality by asserting that evolutionists have promoted several theories of how morality as a social institution is related to human evolution. This view offers three major ways of explaining morality as a social institution and consequently the human moral sense: as adaptive, as an evolutionary by-product, and as a product of culture rather than biological evolution (Pope 2007:250). Each of these approaches can enrich Christian ethics in understanding more fully the important aspects and implications of human morality. Pope (2007:264) is quite clear about his position that the origin of morality should not be explained either biologically or theologically. He motivates this view with a perspective that combines evolutionary theory in a trustworthy way with theology. According to Deane-Drummond et al. (2016:115), there are strong differences of opinion among theologians exploring the origin of morality. Some theologians claim that evolutionary accounts are sufficient in explaining the groundwork on which the further development of morality is based. On the other hand, some theologians are of the opinion that such an evolutionary basis is not relevant in explaining morality, as it can only be sufficiently explained with reference to theological points of reference. Deane-Drummond et al. (2016:11), however, argue that wisdom can emerge from an interdisciplinary approach that creatively combines both evolutionary theory and theology. This brief summary of some voices in the modern discourse on morality sheds light on the importance of an interdisciplinary approach to exploring the origin of morality.

In his recent publication, *The Ethical Project* (2011), Philosopher Philip Kitcher argues that rather than the popular and classical view that ethical precepts are grounded in Divine commands, ethics emerges as a human phenomenon, permanently unfinished. Kitcher (2011:2) further argues that human beings have collectively invented ethics,

generation by generation, and subsequently developed, refined, and distorted it. Kitcher (2011:2) is of the opinion that ethics should be understood as a project in which we have been engaged for most of our evolutionary history as a species. Kitcher (2011:3) develops the notion of *pragmatic naturalism* – which envisages the ethical project as a process initiated by our remote ancestors in response to the difficulties they faced in their social life. Our remote ancestors thus invented ethics and subsequent generations have amended the ethical heritage transferred to them. Kitcher's (2011:3) notion of *pragmatic naturalism* has some correspondence with both pragmatism and naturalism. This view also engages with religious entanglement of ethics in a more extensive way than most secular philosophical discussions. Kitcher (2011:3) explains that the reason for this is that the religious entanglement permeates almost all versions of ethical life. Yet, in accordance with its naturalist integrities, pragmatic naturalism cannot uphold the perspective favoured by those who would ground ethics in the Divine will (Kitcher 2011:3). The ethical project is in many ways distorted by this notion of grounding ethics in the Divine will. For Kitcher (2011:207) we assume that there must be some form of authority in ethics, or some ultimate point of view from which some ultimate truth can be determined. This assumption, however, is erroneous and Kitcher (2011:207) points out that ethics should be "worked out" in a joint effort across various disciplines.

In this particular study the relation between the origins of the human imagination, religious capacity, and morality, as well as how this relationship enriches our understanding of ethics, will be explored. In conducting this study I will draw on insights from various disciplines such as evolutionary biology, psychology, philosophy and theology.

## 1.4 METHODOLOGY

Sheets-Johnstone (2008:1) made the valuable statement that real – and I would add responsible – ethics rests on a credible understanding of what it means to be human and, consequently, on truthful explorations of human experience. In my opinion the quest to determine "real ethics" would be through exploring the origins of morality, religion, and the distinctive human imagination, which calls for an interdisciplinary

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dialogue. According to Van Huyssteen (2006:9), interdisciplinary discourse can be defined as:

> An attempt to bring together disciplines or reasoning strategies that may have widely different points of reference, different epistemological foci, and different experiential resources. This "fitting together," however, is a complex, multileveled transversal process that takes place not within the confines of any given discipline (cf. Changeux & Ricoeur 2000:87), but within the transversal spaces between disciplines. For the theologian the achievement of this kind of shared rational space might at the same time signify the arrival of an authentic public realm in which all participants, whatever their particular differences, can meet to discuss any claim that might be rationally redeemable (cf. Tracy & Reynolds 1992:19).

This study on the origin of human imagination, religion and morality will take the form of a literature review. According to Cronin et al. (2008:38), a literature study is a summary and critical analysis of relevant available research on the particular topic of study. The literature review is part of a qualitative research methodology. This particular study is based on qualitative conceptualising techniques and purely theoretical arguments. There is no empirical component to this study. The research aims and objectives of this study are clear and simple. There are four aims to be achieved with this research project. The first aim is to acquire a more comprehensive understanding of the origins of the uniquely human imagination. The second aim is to study the origins of our capacity for religious belief. The third aim is to explore the origin of morality. The last aim of this study is to integrate the insights from the previous three aims in order to achieve a more comprehensive understanding of what it means to be moral and religious human beings, and how this relates to our understanding of Christian ethics. The following objectives will achieve these aims.

1) A more comprehensive understanding of the origins of the human imagination will be acquired through an evolutionary biological approach. This chapter will commence with a brief overview of the development of evolutionary theory and a discussion of niche construction theory. A short evolutionary history of human beings will follow. The evolution of the human imagination will be explored through an in-depth study of the work done by anthropologists Steven Mithen

and Agustín Fuentes on the evolution of imagination. Mithen develops his thesis on the evolution of imagination by discussing seven steps, which took place in our evolutionary history and resulted in a uniquely human imagination. Fuentes offers his discussion on the evolution of imagination against the background of niche construction theory.

2) The second objective is to explore the evolution of our religious capacity. This will be achieved by studying the perspectives of authors like Johnathan Z. Smith, Wentzel Van Huyssteen and Agustín Fuentes on this matter. Both Van Huyssteen and Fuentes are considered as prominent voices in the current conversations on the evolution of religion. Fuentes presented the 2018 Gifford Lectures with the series title: *Why We Believe: evolution, making meaning, and the development of human natures.* Van Huyssteen, who presented the 2004 Gifford lectures, engaged with and reflected on some of Fuentes's previous work, focusing on the significance of imagination as it concerns human origins and the emergence of morality and religion, as a 'conversation starter' lecture at the 2018 Gifford lectures.

3) Ascertaining the origins of morality, the third objective, will be undertaken with an interdisciplinary approach, combining perspectives from evolutionary biology, psychology and theology. The evolutionary biological perspective of primatologist Frans De Waal is the first to be explored; it offers a bottom-up account of morality, with empathy and reciprocity being two of the main prerequisites for the development of morality. I will then proceed to explore the work of developmental and comparative psychologist Michael Tomasello, who develops an account of the natural history of morality, which was initiated by two key socio-ecological changes that ultimately resulted in the evolution of morality. A third perspective on the evolution of morality that I will study is that of the theologian Deane-Drummond. Deane-Drummond incorporates the insights of niche construction to develop a notion of inter-morality. She is of the opinion that we can benefit from a creative integration of the work of both theology and science on the evolution of morality.

The final objective of this study will be achieved by integrating the knowledge gained in pursuing the previous three objectives. In this integrating process a more comprehensive understanding on the origins of morality and religion and the role of imagination in the process will be sought. I will seek to explore

possible philosophical bridge theories from evolutionary anthropology to interdisciplinary theology and ethics. In accomplishing this I will engage with the work of philosophers Paul Ricoeur and Roger Scruton. Ricoeur developed the well-known notion of the human 'self' in relation to the Other, defined by time and narrative. Scruton in a way incorporates these crucial themes into a notion of the 'religious self'. Finally, I will draw a few core conclusions from the interdisciplinary exploration of the evolution of imagination, religion and morality.

## 1.5 RESEARCH PROGRAMME

The study on the origins of the human imagination, religion and morality will be conducted within an interdisciplinary framework combining perspectives from diverse disciplines. A responsible overview of some of the most important contributions in the modern discourse on imagination, religion, and morality will, therefore, be the starting point of this study. Chapter 2 consists of an exposition of two perspectives on the origin of the human imagination. The discussion will proceed from a brief discussion on contemporary developments in evolutionary theory and niche construction, as well as providing a short evolutionary history of the human species. In Chapter 3 I will seek to acquire a more comprehensive understanding of the evolution of the human capacity for religious awareness. Chapter 4 is devoted to the evolution of morality. Three diverse perspectives will be explored as well as points of overlap and critiques between these scholars. In Chapter 5 I will endeavour to integrate the insights from the previous three chapters with the help of possible philosophical bridge theories. Ultimately this chapter explores how a creative integration of the interdisciplinary approaches explored in this study can enrich our understanding of Christian ethics.

# CHAPTER 2

# THE EVOLUTION OF THE DISTINCTIVE HUMAN IMAGINATION

## 2.1 INTRODUCTION

Following Agustin Fuentes, Wentzel Van Huyssteen and many others, I want to argue that an essential component of our evolutionary success is due to our being a semiotic species: the use of symbol and the development of an imagination in our perceptions of, and dealing with, the world acts as a major factor in human evolutionary histories.[4] Human beings have an imagination that is part of our perceptual and interactive reality and is a significant aspect of lived experience – consequently it is evolutionarily relevant. It is our ability to imagine solutions and realize them through collaborative effort that helped us overcome some of the greatest challenges faced in the past. As this chapter will show, it is realistic to accept that at some point during past 400 000 years language and hyper-complex intentionality acted 'to pin down' the more-than-material as our permanent state of being. Consequently, it formed the basis for the evolution of morality, the possibility of metaphysics, religious imagination, and the propensity for religious belief as crucial parts of the uniquely human experience. In this chapter I will explore how we came to develop the unique capacity for imagination. As it is also this capacity for imagination that laid the groundwork for the evolution of morality and religion, this chapter has a central place in the study as a whole.

In order to explore an evolutionary biological perspective on human imagination, religion, and morality, it is necessary to describe the evolutionary theory that has been applied in this research. The pursuit of a more comprehensive understanding of human imagination, religion, and morality will be conducted against the background of a truly ground-breaking notion in evolutionary science, namely niche construction

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[4] Deacon (1997), Donald (1993), King (2008).

theory. In the light of the aims of this study, I am of the opinion that a short evolutionary history of becoming human is also required. This brief overview of evolutionary theory and especially niche construction theory, as well as the evolutionary history of the modern human species – known as *Homo sapiens sapiens* – will serve as an introduction to the study as a whole.

In evaluating the evolution of the human species Fuentes (2014a:249) argues that not only do human bodies and ecologies[5] need to be explained, but a theoretical approach needs to be developed to describe:

> an effective toolkit for an evolving system that facilitates the production of simple stone tools at two million years ago, more complex stone tools and widening geographic spread one million years ago, the use and control of fire, and complex hunting and communications by 400,000 years ago, art, and increasingly complex multi-community social networks by 60–80,000 years ago, agriculture and early cities by 5,000 years ago, and the megacities, global religions, and world economies of today.

Included in this toolkit are a robust imagination, and a landscape and perceptual reality within which everything, material or not, is infused with multifaceted meaning. The increasingly rapid, dynamic, and deep niche construction by humans, mainly as it relates to aspects of cognitive function and social relationships, and the capability to deploy multiple modes of responding to evolutionary pressures and their associated influence on evolutionary landscapes, facilitates the evolution of the aptly named "sapiens" by ~200 000–100 000 years ago (Fuentes 2014a:249).

The basic story of humanity has been changed by recent discoveries and theoretical shifts in evolutionary theory and biology. These recent discoveries are, amongst other things, the insights into how the environment and life experiences of humans affect the functioning of their genes and bodies, and new findings in the fossil record and ancient DNA. A new synthesis reveals that the human species acquired a unique set of physiological, neurological, and social skills that enabled them to think together and work together in order to cooperate purposefully. Fuentes (2017a:5) mentions that the genes of the human species tell only one aspect of how humans became creative at increasing levels of complexity.  It is these abilities that our human ancestors used to

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[5] Human ecology is defined as human beings' collective interaction with their environment.

help one another care for the young, even if those young were not their own. These human ancestors began to share food for both social and nutritional reasons. Activities beyond what was needed for survival were coordinated. It became increasingly common to act in ways that benefitted the group and not just the individual or family. This standard of creative cooperation, the capacity to get along, to help one another and watch each other's backs, and to think and communicate with one another with increasing skill transformed humans into the beings that invented the technologies that supported large-scale societies and eventually nations. Fuentes (2017a:5) is of the opinion that this collaborative creativity also drove the development of ethical systems and religious beliefs and the production of masterful artworks. Obviously, this collaborative creativity also fired and facilitated the human capacity to compete in more deadly ways. The same creativity is essentially applied in killing members of their own species, as is occurring currently with the manipulation of planetary ecology to the extent of taking us to the threshold of complete devastation. Nonetheless, Fuentes (2017a:5) mentions that while humans are obviously capable of intense cruelty and damage, their tendency to show compassion plays a larger role in their evolutionary history.

According to Fuentes (2009a:12), a distinctively human imagination, and the human tendency towards extreme alteration of the surrounding world, has contributed to the success of the human species. Fuentes (2009a:12) adds that as a species we "not only construct material items, we engage in the creation and navigation of social structures, space and place in a manner unequalled by other organisms." Van Huyssteen (2015:4) is of the opinion that surprising answers to what it means to be a human person, a self, can be found in the history of hominid and hominin evolution. Considering the problem of human evolution and its broader impact on human anthropology, Van Huyssteen (2015:5) poses a very important question: "do we still understand the idea, or rather the *fact* – if you want – of human evolution in the same way that Charles Darwin and Neo-Darwinians understood and now understand it?" Fuentes (2009a:12) argues that there is an expansive body of research and theory that is insufficiently captured under the two headings, 'Darwinian' and 'neo-Darwinian.'

In basic neo-Darwinian theory natural selection and sexual selection are prioritized as the main drivers of evolutionary change and the emergence of adaptations.[6]

Fuentes (2017a:5) states that in the present day our best understanding of evolutionary processes is the extended evolutionary synthesis (EES). A range of different processes, beyond just natural selection, is central in explaining why and how all living things evolved. This current understanding of evolution as the interaction of multiple processes is significantly captured by Kevin Laland et al. (2015) in their publication, *The extended evolutionary synthesis: its structure, assumptions and predictions.* According to Laland et al. (2015:1-2), the modern synthesis (MS) developed in the first half of the twentieth century as a result of the integration of Darwinian natural selection, population-level thinking and Mendelian inheritance. The dominant conceptual framework for evolutionary biology is provided by the MS. However, the field of evolutionary biology has continued to develop after that. New empirical and theoretical findings were incorporated. This development led to a significantly more sophisticated evolutionary theory today which involves a much broader range of phenomena.

Laland et al. (2015:2) label this alternative interpretation the "extended evolutionary synthesis" (EES) and emphasize that the EES is an emerging line of current evolutionary thought within the field. The EES is, therefore, not a denial of the value of past frameworks or of progress in evolutionary biology. This interpretation (EES) includes a perspective that is in comprehensive agreement with the assumptions of

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[6] Fuentes (2017a:6) defines natural selection as follows: "Natural selection does not mean what most people think it means. Rather than being a lethal competition for survival in which the biggest, baddest, and 'fittest' battle it out on the playing field of life, natural selection is a filtering process that shapes variation in response to constraints and pressures in the environment... So in evolution the type and pattern of variation and the pressures of the environment matter a great deal." Sexual selection is, according to Fuentes (2009:12), "the over-representation of specific phenotypes across generations as a result of mate choice or intrasexual competition. Those traits that lead to the success of particular phenotypes and become the predominant traits in subsequent generations are termed adaptations. These traits, and the individuals possessing them, are then said to be more 'fit' (better at reproducing themselves into subsequent generations) than other individuals in the same population with less successful traits. The basal neo-Darwinian paradigm holds that most systems will strive for optimality, with the result that the most 'fit' phenotypes and their associated genotypes will rise to a majority status within the population over evolutionary time."

the original MS. The same findings are viewed as challenging important assumptions of the MS by the EES interpretation. According to Laland et al. (2015:2), this view 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. The contemporary understanding of evolution can be summarized as follows (Fuentes 2015:3): genetic variation is introduced by mutation. In interaction with epigenetic and developmental processes, genetic variation produces biological variation in organisms, which could be passed from generation to generation. Biological variation is shaped by natural selection in response to specific environmental pressures and constraints. Dynamic organism-environment interaction can result in niche construction which changes the patterns, focus, and intensity of natural selection and creates ecological inheritance.

Nowadays it is commonly recognized that four systems of inheritance can all provide patterns of variation that influence evolutionary processes (Fuentes 2017a:6-7).

1) *Genetic inheritance* is the passing of genes, encoded in DNA, from one generation to the next.
2) *Epigenetic inheritance* affects aspects of systems in the body associated with development that can transfer from one generation to the next without having a specific root in the DNA. For example, some stressors on a mother during pregnancy can affect the development of the foetus, who may in turn pass those altered characteristics on to her or his offspring.
3) *Behavioural inheritance* is the passing of behavioural actions and knowledge from one generation to the next and is common in many animals. For example, when mother chimpanzees help their offspring learn how to crack nuts with rocks or fish for termites with sticks.
4) *Symbolic inheritance* is unique to humans and is the passing down of ideas, symbols, and perceptions that influence the ways in which we live and use our bodies, which can potentially affect the transmission of biological information from one generation to the next.

Apart from the four systems mentioned above, two other key contemporary theoretical findings are especially important for this new synthesis, namely, a distinctive brand of cooperation, and the process of niche construction (Fuentes 2017a:7). The latter has

become most probably one of the most important developments in our reflection on evolution. The following section is devoted to a brief discussion of niche construction and human evolution.

2.1.1 Niche Construction

According to Fuentes (2014a:242), an evolutionary assessment of a distinctively human way of being in the world can be facilitated "via recognition of the increasingly central roles of niche construction, systemic complexity, semiotics, and an integration of the cognitive, social, and ecological in human communities during the Pleistocene epoch (stretching from ~2–.01 million years ago)." Fuentes (2017a:9) states that although all processes of the EES are relevant to the story of human evolution, the process known as niche construction is particularly important. The concept of niche construction originated in the 1980s and can be seen as a truly ground-breaking recent idea in evolutionary science (Fuentes 2017a:10). In short, Fuentes (2017a:17) describes niche construction as:

> The process of responding to the challenges and conflicts of the environment by reshaping the very pressures that the world places on (each of) us. A *niche* is the sum total of an organism's way of being in the world – its ecology, its behaviour, and all the other aspects (and organisms) that make up its surroundings.

Laland et al. (2015:4) defines niche construction as the process through which the metabolism, activities and choices of organisms modify or stabilize environmental states, and in this manner affect selection acting on themselves and other species. Niche construction, according to Laland et al. (2015:4), often scales up across individuals in a particular population. This leads to the generation of stable and directional changes in environmental conditions over time.

Ontogeny is also influenced by niche construction, which constitutes an important way in which environmental factors are incorporated into normal development (Laland et al. 2015:4). These environmental factors sometimes become as dependable as genomic factors. The increase of environmental changes, such as atmosphere, altered soil or ocean states that foregoing generations have brought about through their niche-constructing activity, are known as ecological inheritance. Laland et al. (2015:14) state

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that ecological inheritance directly influences the development of descendant organisms. Organisms, through their niche-construction activities, may also change the niches of other species in an ecosystem. Laland et al. (2015:4) argue that the change of other species' niches leads to "direct or diffuse coevolution, including via intermediate abiota,[7] with potentially profound impacts on the stability and dynamics of ecosystems on both micro- and macro-evolutionary timescales."

As mentioned by Laland et al. (2015:4), a body of formal evolutionary theory has revealed that evolutionary dynamics can be affected by niche construction in a variety of ways, even when it is not an adaptation, also known as an 'extended phenotype.' Laland et al. (2015:4) are of the opinion that the evolutionary significance of niche construction stems from the following factors:

> (i) organisms modify environmental states in non-random ways, thereby imposing a systematic bias on the selection pressures they generate; (ii) ecological inheritance affects the evolutionary dynamics of descendants and contributes to the cross-generational stability of environmental conditions; (iii) acquired characters become evolutionarily significant by modifying selective environments; and (iv) the complementarity of organisms and their environments can be enhanced through niche construction (modifying environments to suit organisms), not just through natural selection.

These outcomes have led to the assertion that niche construction should be recognized as an evolutionary process through its guiding influence on selection.

The niche is, in other words, a combination of the ecology in which an organism lives and the way the organism makes a living. This structural and temporal context in which a species exists includes nutrients, space, and other physical factors as they are experienced, restructured, altered by the organism and also shaped by the presence of collaborators, competitors, and other agents in a shared environment (Fuentes 2014a:242). The human niche also refers to the spatial and social spheres, which include the social partners, perceptual contexts, and ecologies for human individuals

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[7] In biology and ecology, abiotic components or abiotic factors are non-living chemical and physical parts of the environment that affect living organisms and the functioning of ecosystems. Abiotic factors and phenomena associated with them underpin all biology.

and communities and the many other species sympatric with humans (Fuentes 2015:2). The human niche is the context for the lived experience of humans today as it was for earlier humans and their communities, where they shared kinship (biological and social) as well as social and ecological histories, and where they created and participated in shared knowledge, social and structural security, and development across the lifespan (Fuentes 2014a:244).

The human socio-cognitive niche is a behavioural and cognitive configuration that is derived relative to the socio-behavioural contexts of previous hominins. In modern humans it includes cooperation, egalitarianism, mindreading/ theory of mind, cultural transmission and innovation, and language (Fuentes 2014a:243). This complex niche is unique to the human species. The various components of this system emerged during the Pleistocene[8] to reach its present-day form (Fuentes 2014a:243). According to Fuentes (2014a:243; cf. Sterelny 2012 and Whiten & Erdal 2012), this niche accommodates complex social and emotional interfaces, involving multifaceted information exchange, in the forging of bonds as a core part of human adaptation. Fuentes (2014a:243) proposes that the emergence of a distinctively human niche can be linked to "existing in a meaning-laden world and the emergence of an imagination that facilitates the capacity and capabilities for the possibility of metaphysical thought." This process is also intrinsically connected to our evolutionary success as a species.

Although many organisms "do" niche construction,[9] Fuentes (2017a:10) is of the opinion that humans are in a class of their own – agriculture, towns, and domestic animals (to name a few). The world around humans are reshaped by the cooperative and creative responses to the conflicts the world throws at them, and in turn their bodies and minds are reshaped. During its evolutionary history the human species

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[8] The Pleistocene is often referred to as the Ice Age. This geological epoch lasted from about 2,588,000 to 11,700 years ago, spanning the world's most recent period of repeated glaciations. The end of the Pleistocene corresponds with the end of the last glacial period and also with the end of the Paleolithic age, also known as the Stone Age.

[9] Fuentes (2017a:10) offers the following examples: "Beavers build dams, changing the compositions of fish and crayfish, water temperature, and water flow around their houses and thus altering the kinds of pressures they face in the world. Even earthworms niche construct. When arriving in a new place, they work their way through the soil, ingesting it, changing its chemical structure, and loosening it, making it a better environment for the subsequent generations of worms living in that same place."

developed a cognitive and behavioural process within which experiences in, and perceptions of, the world exist in a context in which the "material" world is never without symbolic meaning (Fuentes 2014a:243). For humans, in the words of Fuentes (2014a:243), "it is the emergent properties of symbolic representation that enable a system where symbols maintain stability and meaning even in the absence of their objects of reference." The interrelationships of many elements (senses, perceptions, bodies, brains, experiences, etc.) gave rise to this system, but none of the various elements have in themselves the specific property of symbolic experience. The social relationships, landscapes, and the biotic and abiotic elements which humans encounter are embedded in an experiential reality. This experiential reality is infused with a consistent potential for symbolic meaning derived from more than the material substance and milieu at hand. Fuentes (2014a:243) therefore argues that this results in a distinctive way of perceiving, and being in, the world for the human species relative to other hominins, primates and mammals.

Through the incorporation of niche construction and the possibility of social, behavioural, and symbolic inheritance, in addition to ecological and genetic inheritances, as at the core of the evolutionary process, the role of semiotic landscapes and their impacts on social relationships, ecosystems, and populations becomes central in the examination of evolutionary processes and trajectories (Fuentes 2014a:244). The human species is the species that has a hand in making itself – "niche construction extraordinaire" (Fuentes 2017a:10). Humans have co-shaped their bodies, behaviour, and minds by their actions and the evolutionary pressures they have faced. According to Fuentes (2017a:10), the history of this process is the heart of the new synthesis and not only tells us how the human species got to where it is today, but also offers a substantial insight into where, and who, they might be in the future.

2.1.2 Short evolutionary history of becoming human

In order to understand the human story, the grand narrative of the human creative journey, as Fuentes (2017a:16) calls it, it is necessary to recognize that humans are mammals and members of a specific mammalian order (primates). Human beings are also members of a specific subset of primates called "anthropoids" (monkeys, apes, and humans). Humans are also part of a specific subset of anthropoids called

"hominoids" (apes and humans). Consequently human beings are members of a specific subset of the hominoids called the "hominins," which are humans, their ancestors, and a set of extinct humanlike beings. Fuentes (2017a:16) uses the image of a big branching bush with millions of branches, twigs, and leaves to describe the evolutionary history of life on this planet. Close evolutionary relatives are those twigs and leaves closest to one another. As such, humans do share a branch with monkeys, but our respective twigs split off in different directions about 25 to 30 million years ago. Therefore, all commonalities humans have with all monkeys are shared traits that were present in the original branch from which both our lines (the twigs) arose. If one takes into account the closest primate relatives to humans, the African apes (gorillas and chimpanzees), the human lineage split off from a common ancestor about 7 to 10 million years ago (Fuentes 2017a:16). Other primates do create new ways to meet life's challenges and invent new ways to relate to one another. These ways, however, never reach anything near the extent to which human beings do this. It is well known that the anthropoids exhibit complex social lives. The hominoids from which both the human and the ape lineages derived probably had even a greater degree of social complexity. In turn, Fuentes (2017a:23) mentions that the hominins, arising from the hominoids and eventually giving rise to the human lineage, followed the trend toward social complexity and began creating social niches, tools, and social traditions.

Various scholars (Van Huyssteen 2006; Tattersall 2012; Fuentes 2014) agree that the genus *Homo* (human species) underwent substantial morphological changes and enhanced behavioural complexity during the last two million years. During this process of change and enhancement, a novel socio-cognitive niche that was generated and inhabited by human beings was formed. This is due to high-level cooperation that involved complex social relationships, foraging, childrearing, information sharing, and symbolic extended memory (Fuentes 2014a:244; Whiten & Erdal 2012; Sterelny 2012). A main characteristic of this niche is a compelled interdependence, where being in intricate social communities involving multiple and diverse social relationships, condensed information sharing, and high levels of cooperation are fundamental to successfully becoming, and being, human.

*Homo* fossils, dating back to between 2.3 and 1.8 mya,[10] were found which have larger brains and a small number of other features distinguishing them from other hominins of the same period (Fuentes 2014a:244). According to Wood and Leaky (2011:264-292), these fossils are associated with simple stone tool types and there is some debate about their assignation to the genus *Homo*. Clear members of the genus *Homo,* dating back to 1.8 mya, were found in Africa (*Homo* ergaster) and very shortly after that in South East Asia and Eurasia (*Homo* erectus). Fuentes (2014a:245) mentions that these fossils have relatively large brains and are morphologically identifiable as members of the genus *Homo*. Shortly after this point the fossil record starts to show the changing patterns of increasingly complex social and ecological niches that are characteristic of the genus *Homo*. This niche complexity is defined by Deane-Drummond and Fuentes (2014:255) as the emergence of the human "community niche". The community niche is a social and spatial niche that contains the primary contexts, ecologies, and social partners with which an individual interacts. There is shared "kinship" and social and ecological histories within the group, which is the main source of shared security, knowledge, and development across the lifespan (Deane-Drummond & Fuentes 2014:255). The social community within this niche has multiple possible subgroupings across space and time as well as fluid boundaries. Yet all members share ecological, cognitive, and social bonds even in the absence of close spatial proximity. Deane-Drummond and Fuentes (2014:255) argue that during the course of human evolution it is in the context of this community niche that members of the genus *Homo* interacted with, interfaced, modified, and were modified by, ecological and social worlds.

In order to better understand the patterns in the evolution of the genus *Homo*, Fuentes (2014a:245), in line with previous scholars such as Anton and Snodgrass (2012), Foley and Gamble (2009), Sterelny (2012), and Gable, Gowlett and Dunbar (2011), divides the Pleistocene into temporal subdivisions that group noteworthy morphological, behavioural, and material changes in the genus. In the light of the perspectives of Fuentes (2014a) and the scholars mentioned above, I will offer a brief review of those temporal subdivisions in the context of niche construction as a key element in human evolutionary processes. This review will serve as a necessary

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[10] Million years ago.

background for the subsequent discussion of human imagination, religion and morality.

The first essential subdivision in the evolution of the genus *Homo* falls between 2.3-1.7 mya. This subdivision reflects the interaction between increasing brain and body size as well as increasing metabolic costs, simple stone tool manufacture and use, small populations, low densities, and high extrinsic mortality[11] (Fuentes 2014a:245). By the end of this period the niche and associated evolutionary pressures of the early members of the genus *Homo* were affected and began to reshape due to their behavioural responses. Included amongst these behaviours were, according to Fuentes (2014a:245; 2013) and Sterelny (2012), incipient enhanced cooperation in foraging, anti-predator behaviour, and childrearing. Reduced extrinsic mortality was the result of feedback and reaction between the components of the niche and the change in selection pressures, the slight increases in transport distances of raw materials (mostly food and stones), foraging plasticity combined with the establishment of cooperative breeding and enhanced anti-predation behaviour, and dietary diversity. Roughly 1.8-1.6 mya an expanded pattern of phenotypic plasticity in response to ecological pressures is detected. This arranged the foundation for progressively complex and rapid reactions to evolutionary pressures by communities of *Homo*. Fuentes (2014a:245) argues it is in the terminal third of this subdivision that some of genus *Homo* populations began to expand their geographic range and move around more widely, and out of, the African continent.

A second subdivision occurs between 1.8 – 0.7 mya. Its collections of significant processes arise from the catalysis of increasing cognitive capabilities, behavioural plasticity, expanded geographic diversity in the genus *Homo*, and the heightened ecological variability and climate unpredictability they encounter (Fuentes 2014a:245; Potts 2012; Anton & Snodgrass 2012). The utilization of a more complex toolkit is the result of innovations in behaviour and the modification of stone and wood. These developments are paired with minor increases in population size, major increases in brain size, locomotor efficiency, and further dietary diversification. Core physiological

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[11] Fuentes (2014a:254) explains extrinsic mortality as referring to death caused by factors external to the individuals of interest such as ecological stress, predation etc.

patterns, such as increased body fat and the beginning of human-like life histories,[12] became established during the development and feedback of niche construction processes during the latter half of this time period (Fuentes 2014a:246). Consequently evolutionary pressures on members of the genus *Homo* were again altered. Furthermore, during this period the rate and density of behavioural innovation increase relative to the previous period. This entails increased raw material transportation, some cooperative hunting, some use of fire, and robust collaboration within, and possibly between, communities, all factors which developed and became common by 800 000 to 600 000 years ago (Fuentes 2014a:246). During this period the human socio-cognitive niche began to take shape (Coward & Grove 2011; Whiten & Erdal 2012; Sterelny 2012).

Subdivision three, approximately 700 000 to 300 000 years ago, is probably more characterized by substantial neural reconfiguration and less by changes in the bones and bodies of members of the human lineage. During this period brain size reaches modern levels and toolkits begin to diversify at a much greater pace. Hunting practices expand, complex foraging patterns are the norm, and raw material transport includes long-distance transfer (>120 km) (Fuentes 2014a:246). The use of fire is near general practice and its substantial impacts on physiological and social evolution become prominent across the board. A range of substantive behavioural transitions appear to be underway by the middle of this time period. Fuentes (2014a:246) mentions the increase in material and social innovation, and population sizes appear to expand. It is also likely that trade networks and other cooperative and conflicting inter-community relationships occur over long distances. Reflected in these patterns is a fundamental change in the pace and means by which niche constructive feedback circulates between the components of the human niche[13] that mutually affect one another, laying the groundwork for a truly distinctive evolutionary transition, and facilitating the

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[12] Various scholars (Aiello & Anton 2012; Anton & Snodgrass 2012; Wells 2012) agree that the particularly prominent elements of a human life history pattern include (1) an extended infancy and childhood, (2) a long adolescence and slow growth of the brain, (3) a substantive post-reproductive lifespan for females (after menopause), and (4) overall increased coexistence of multiple generations in a single community.

[13] The components mentioned are, amongst others, individuals, social subgroups, communities, and ecologies.

emergence of modern humans (Fuentes 2014a:245; see also Andersson, Törnberg & Törnberg 2014; Fuentes 2013; Sterelny 2012; Gamble, Gowlett & Dunbar 2011).

Looking at the evolutionary paths established in the earlier parts of the Pleistocene, it is evident that there has been a transition to what Fuentes (2014a:246) calls a radically enriched version of niche construction and associated feedback loops, and ecological/social processes in the fourth Pleistocene subdivision. This subdivision is dated around 300 000 years ago through to the end of the Pleistocene some 10 000 years ago. The first examples of fossils that match the anatomical definition of the modern human species (*Homo* sapiens sapiens) are evident from this time. It is also during this time frame that the initial examples of the kinds of complex behavioural and cognitive indicators that are commonly associated with full-blown humanity can be seen. Fuentes (2014a:247) describes this fourth period as characterized by the emergence of a new niche, and consequently a distinctive way of being in the world, a way that is only transitioned into by *Homo* sapiens sapiens. None of the other hominins present in the early phases of this fourth period – for example the Neanderthals, Denosovans and Flores hominins – made the transition and they all are extinct by the end of the Pleistocene. Characteristic of this new niche is the rapidly increasing rate and density of innovations and associated increasing shifts in the pace and content of cultural and behavioural change and complexity, resulting in new and more effective ways of engaging with and changing local ecologies (Fuentes 2014a:247). The trajectory and evolutionary context of this niche is quantitatively and qualitatively more dynamic than that of any previous patterns in Pleistocene hominins. Therefore this niche is significantly more complex, especially in systems of communication, perception, and meaning. Fuentes (2014a:247) remarks that in this niche human social relationships, landscapes, and the biotic an abiotic elements they encounter, are rooted in an experiential reality – a reality that is imbued with a consistent potential for generating meaning derived from more than the material substance at hand.

The processes mentioned in the brief overview of human evolution above are very complex and, while specific aspects of systems are often assessed, it is the systems (not their individual traits) that should be explained (Fuentes 2014a:247). The human socio-cognitive and ecological niche is therefore a prime focus for the inquiry into a

distinctively human imagination and landscape of meaning. Fuentes (2014a:247) suggests that it is niche construction theory, and also systems approaches that incorporate multiple modes of inheritance, that are of especial use in thinking about these aspects of human evolution. Although multiple processes of inheritance, i.e. genetic, epigenetic, behavioural, and symbolic (exclusive to humans), are evolutionarily relevant, there is substantive evidence that behavioural and cultural inheritances play especially important roles in evolutionary patterns and outcomes for members of the genus *Homo* (Fuentes 2014a:247). In order to understand this system and how it might have resulted in the emergence of a distinctively human way of being, the central roles that cooperation and coordination play in the human niche and across human evolutionary history should be reviewed. According to Fuentes (2014a:247), a trend is evident in the evolution of the human lineage across the Pleistocene, namely the increasing complexity in the way humans interface with the world. The human lineage is characterized by increases in the complexity of social traditions (culture), tool use and manufacture, fire use, trade, enhanced infant survivorship and predator avoidance, increased habitat exploitation, increased information transfer through more complex communication patterns and material technologies. These characteristics appeared with frequencies and intensities that increased most dramatically over the last 400 000 years.

Fuentes (2014a:247) notes that all of these processes and patterns are tied to evolving human cognition and social structures. Increased cooperative abilities and coordination within communities were also required. Thinking about these as components and outcomes of a niche construction relationship provides a mechanism, and a context, for the evolution of this multifaceted response capability to a widening array of ecological pressures. A socio-cognitive and ecological feedback loop is created by the human lineage facing more and more diverse ecologies and social contexts, and the success achieved by at least some populations in a diverse array of environments. This loop gradually expands human potential and plasticity for responding to evolutionary pressures and confronting complex ecological pressures. In the light of the patterns in various subdivisions of the Pleistocene and the current capabilities of humans, Fuentes (2014a:244; 2013) notes it is obvious that this process is for the most part accomplished by human ancestors because of their increasing capabilities for hyper-cooperative behaviour. The human and evolutionarily relevant

aspects included in these coordinative and cooperative systems are intensive cooperative childrearing involving male care and complex parenting, and the emergence of kinship systems that extend beyond biological relationships but co-opt biological systems of bonding (Fuentes 2014a:248; 2013). The pattern that entails dealing with ecological challenges, such as foraging, predation, area defence, etc., predominantly as a community and not as individuals, is tied to a strong capacity for collective intentionality and the initiation of an extended social mind (Fuentes 2014a:248). Extensive cooperative interactions and coordination within, and probably between, communities of the genus *Homo* are required for the manufacture and use of increasingly complex bone, wood, and stone tools, as well as the emergence of non-tool material cultures, which include "art" and other symbolic representations. Lastly, Fuentes (2014a:248) mentions the emergence of language and a fully developed theory of mind with high levels of intentionality, symbol, and social unity would be impossible without an exceptionally cooperative and mutually integrated social system, and skill set, in combination with improved cognitive and communicative capabilities as the core adaptive niche of human beings.

Much is known about the structure and pace of evolution in the genus *Homo*. There is also a great deal known about the pivotal role of cooperation, and the constant dynamics of niche construction processes. Fuentes (2014a:248), in line with many scholars, suggests that:

> incorporating analyses of compassion, and symbolic identities/landscapes as structural components in these systems, alongside the increasingly complex cognitive, cultural, and material processes, and extended life histories, in our genus provides a scenario wherein we can envision a distinctively human imagination as a key part of our niche and part of the explanation for why our species succeeded and all other hominins went extinct.

During the 7 million years of hominin evolution, it is possible to detect the growing sophistication of social niche construction, social traditions, dynamic social groups, and simple tool manufacture and use. One can see the primate creative spark, as Fuentes (2017a:23) calls it, taken to a new level, making tools rather than just using them, and increasing cooperation and social learning. In sum, Fuentes (2017a:23)

believes that this creative spark constructed "an entirely new way of making a living on this planet – a way that would eventually beat everything else, ever."

In the following in-depth discussion of the evolution of the human capacity of imagination the main focus will be on the perspectives of anthropologists, Steven Mithen and Agustín Fuentes. Steven Mithen, an archaeologist with an interest in psychology, is Deputy Vice-Chancellor and Professor of Early Prehistory at the University of Reading. One of Mithen's main areas of interest is the evolution of the human mind, language and music. Mithen has been one of the pioneers of cognitive archaeology, drawing on research in psychology, neuroscience and philosophy of mind for the interpretation of the archaeological record. Agustín Fuentes is an American primatologist and biological anthropologist, whose work focuses largely on human and non-human primate interaction, pathogen transfer, communication, cooperation, and human social evolution. Fuentes's current research focuses on "the how and why of being human". Fuentes examines human evolution from several perspectives, and his research sheds light on some of the most common misconceptions about human nature, specifically in the areas of race, sex and aggression.

## 2.2 STEVEN MITHEN: SEVEN STEPS IN THE EVOLUTION OF THE HUMAN IMAGINATION

The archaeological and fossil records suggest that the human hominin ancestors and relatives did indeed have imaginative abilities that were applied in their day-to-day living (Mithen 2007:3). These imaginative abilities were applied when, for instance, hunting and gathering or the making of stone tools were considered. Nevertheless there is no evidence that our hominin ancestors and relatives possessed a creative imagination (Mithen 2007:3). The creative imagination is usually associated with activities such as sciences and art. This type of imagination was, according to Mithen (2007:3), most likely restricted to *Homo sapiens*, who appears in the fossil record 200 000 years ago. Mithen (2007:3) argues that the creative imagination of *Homo Sapiens* was the product of a long evolutionary history in which seven key developments in biological and cultural evolution can be identified: the evolution of theory of mind capacities, a distinctively human life history and domain-specific

intelligences, the origin of music, language, and cognitive fluidity, the extension of mind by material culture, and the appearance of sedentary farming communities.

Mithen (2007:3) begins his discussion of the evolution of the human imagination by stating that modern humans are the product of at least six million years of evolution ever since the divergence of the human lineage from that which led to the chimpanzee. Even though it is normally assumed that the common ancestor[14] had a mind like the chimpanzee, it must be concluded that its imaginative powers were limited. The statute of limitations depends on how the imagination is defined and how the behaviour of chimpanzees is interpreted in today's time. Decision making is one aspect of the human imagination which is part of the day-to-day living of all human beings. Humans constantly have to make decisions and often do so by imagining future scenarios from the choices that are available. Such decisions, according to Mithen (2007:4), involve both foresight and the contemplation of alternatives. It is possible that chimpanzees, and perhaps a wide selection of other animals, have this type of imagination. This is due to its appearance as synonymous with consciousness, which some philosophers and ethologists claim is found among many species (Mithen 2007:4). Chimpanzees might apply foresight in the manufacturing of a stick to extract termites and even contemplate alternative choices in the execution of the action. The contrary might also be true and it may completely lack foresight and the ability to select between options. It can, however, be said with confidence that chimpanzees lack another aspect of modern human imagination, the creative imagination (Mithen 2007:4).

Mithen's (2007:4) definition of the 'creative imagination' is "the ability to combine different types of knowledge and ways of thinking to create novel ideas and insights." This type of imagination is unique to modern human beings in the world today. However, it remains unclear to what extent a creative imagination of this type was found in other extinct species of the *Homo* genus. Mithen (2007:4) states the following in this regard:

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[14] Mithen (2007:3) mentions that it is normally assumed that the common ancestor was similar to the chimpanzee. This is due to the ape-like brain size and post-cranial characteristics of the earliest hominid species. The earliest hominid species date to 4.5 million years ago.

The Neanderthals, for instance, had brains as large, and in some cases larger, than modern humans and survived for more than 250,000 years during the middle and later Pleistocene in Europe, a period of considerable environmental change and stress (Stringer and Gamble 1993; Gamble 1999). They made complex stone artefacts, engaged in big hunting, and undertook some activities that required black pigment (D'Errico and Soressi 2002). All of this required the 'day-to-day' type imagination, such as for planning hunts, and selecting nodules of stone for tool making. Whether they also possessed a creative imagination is more contentious as there is no unambiguous evidence for this in the material record, although some artefacts remain subject to debate (e.g. Berekhat Ram 'figurine', see D'Errico and Nowell 2000). The likely use of black pigment provides us with the greatest dilemma as this could be for utilitarian or symbolic purposes – my own preference is for the former (Mithen 2005). [15]

With regards to Neanderthals, Mithen (2007:5) mentions that the absence of rock art and other signs of a creative imagination does not necessarily reflect the absence of the requisite cognitive abilities in this species. Rather, it might reflect the absence of the necessary social and economic conditions for this to have become manifest. The relevant evidence may, alternatively, not yet have been discovered or has not survived. Mithen (2007:5) is of the opinion that Neanderthals lacked the cognitive capacity for a creative imagination. According to archaeological evidence, the creative imagination appears to be restricted to *Homo sapiens,* the single member of the *Homo* genus that has survived today, and the survival and pre-eminent success of the human species can be partly explained by the possession of that imagination (Mithen 2007:5; 1996; 2001). On this matter, it is *Homo sapiens's* ability to think more creatively about exploiting the landscape, making tools, constructing social relationships, and even about supernatural worlds of gods and ice age spirits that enabled them to out-compete Neanderthals and all other members of the *Homo* genus for resources

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[15] With regards to the black pigment the Encyclopaedia Britannica (2018) states:

Neanderthals used naturally occurring pigments, such as red ochre, an iron oxide from an impure iron ore, perhaps mixed with fat. They smeared shells with the ochre and transported them from their original location. They also exploited black mineral pigments, particularly manganese oxides. Over 70 Neanderthal sites contain evidence of manganese oxides, including one site, Pech de l'Azé, which yielded over 500 black pigment fragments, half of which show tell-tale signs of use-wear.

(Mithen 2007:5). It is this creative imagination that also enabled them not only to survive, but also to flourish. *Homo sapiens* had survived and flourished through the harshest periods of environmental change during the late Pleistocene.

Even though the creative imagination is restricted to modern human beings, it cannot have simply "sprung from nothing" with the origin of *Homo sapiens* about 200 000 years ago (Mithen 2007:5). This type of imagination is the product of a long evolutionary history. This evolutionary history involves both biological and cultural changes that originated shortly after the divergence of the two lineages that led to modern human beings and the African apes.

Mithen (2007:5) argues that seven critical steps can be identified in the process of the evolutionary history of the distinctively human creative imagination. What follows is a description of the seven steps in chronological order, as explained by Mithen (2007:5-25). Mithen (2007:5) mentions that each of the steps should be thought of as a gradual evolutionary process rather than a discrete event, and at the same time a process that often provided the necessary foundation for the subsequent step towards the modern creative imagination.

2.2.1 Step 1: A theory of mind, 6.0-1.8 million years ago

The 'theory of mind' is generally understood as having the ability to know that other individuals have thoughts and beliefs that are different from one's own (Mithen 2007:5). This phenomenon is, however, complex and open to multiple interpretations. Two elements are logically separable: (a) the ability to know that other people have beliefs and thoughts, or minds, and (b) the ability to know that these beliefs and thoughts are different from one's own. In principle, a person could know that other people have beliefs and thoughts, but lack the ability to take the perspective of other people, and therefore assume that other people's thoughts and beliefs are the same as one's own (Mithen 2007:6).

There has been considerable research on theory of mind in the fields of developmental psychology, ethology and anthropology since the late twentieth century. Mithen (2007:7) mentions that is has proved to be surprisingly difficult to establish whether chimpanzees have a theory of mind. Any attempt to establish what chimpanzees know about another chimpanzee's mind is inevitably fraught with methodological problems.

In his opinion, chimpanzees have a limited, if any, understanding of other minds (Mithen 2007:7). In this regard, the fully developed theory of mind capacity as seen in human beings must have evolved after the split from the common human-chimpanzee ancestor at around six million years ago. Dennett (1996), according to Mithen (2007:7), developed a useful way to characterize varying theory of mind capacities within and across species by using the terminology of 'orders of intentionality'.[16] This is explained as follows (Mithen 2007:7; cf. Dennet 1996):

> By having a belief, one has a single order of intentionality. If I were to have a belief about your belief, I would have a second order of intentionality. If I were then to have a belief about what you believe a third party believes, I would have a third order of intentionality. And so forth.

In this context chimpanzees would be designated as having one, or at the very most two, orders of intentionality. Modern human beings, on the other hand, routinely engage in thoughts that require four and sometimes even five orders of intentionality. Mithen (2007:7) refers to Dunbar (2004), who developed a 'social brain' hypothesis which states that the enlargement of the brain during human evolution has been a consequence of selection for ever more complex social skills.[17] This hypothesis is based on the argument that the evolution of increasingly greater levels of intentionality can be traced through the fossil record by estimating brain size. A major criticism against Dunbar's (2004) social brain hypothesis is that it implies that Neanderthals and other large-brained non-modern *Homo* have the same order of intentionality as *Homo sapiens* (Mithen 2007:7). This is required even though patterns of thought and behaviour of the Neanderthals and other large-brained non-modern *Homo* appear quite different from those of *Homo sapiens* based on the archaeological evidence.

Dunbar's arguments, unlikely to be correct for the latter stages of human evolution, appears to have great validity for the earlier stages. This applies to the appearance of the first members of *Homo* with brains significantly larger than the 450 cm³ of modern

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[16] Daniel Dennett is an American philosopher, writer, and cognitive scientist whose research centres on the philosophy of mind, philosophy of science, and philosophy of biology, particularly as those fields relate to evolutionary biology and cognitive science.

[17] Robin Dunbar is a British anthropologist and evolutionary psychologist and considered as a specialist in primate behaviour.

chimpanzees (Mithen 2007:8). *Homo rudolfensis* and *Homo habilis* had brain sizes that exceeded 700 cm³ and 500 cm³ respectively. Whereas some specimens of *Homo ergaster* at 1.75 million years ago (mya) had brain capacities that exceeded 850 cm³, although other specimens remained below 700 cm³ (Mithen 2007:8). Dunbar (2004; cf. Mithen 2007:8) argues, in the light of a correlation between group size and brain size among modern non-human primates, that these earlier species were living in larger groups than modern-day chimpanzees. This would have created selective pressures for theory of mind capacities and enhanced communication (Mithen 2007:8; Dunbar 1996, 2004; Aiello and Dunbar 1993). With more individuals to potentially cooperate and compete with, those individuals that could anticipate the behaviour of other individuals by 'imagining' what they were thinking would have gained a reproductive advantage (Mithen 2007:8).

The necessity to live in relatively large groups can be explained by the environmental changes of the early Pleistocene. The most notable of these is the increasing openness of the landscapes and the increased role of hunting and scavenging (Mithen 2007:8). A clear cause and effect is not easily identifiable as there would have been feedbacks between brain size, diet, technology, and social interaction (Mithen 2007:8). That the evolution of a theory of mind – perhaps up to three orders of intentionality – was a central feature of this nexus of interactions during the early Pleistocene is a persuasive argument. This, as mentioned by Mithen (2007:8), would have provided the first step in the evolution of the imaginative capacities of the modern human mind.

2.2.2 Step 2: The evolution of human life history, 2.0-0.1 million years ago

Several key respects in which the human life history contrasts with the history of modern apes can be identified. Mithen (2007:8) offers the following short description:

> First, there is the phenomenon of 'secondary altriciality'. This refers to the combination of a long gestation and the period of relative infant helplessness after birth during which brain size continues a foetal rate of growth for another year. Second, there is the developmental phase that we call the 'childhood', which lies between weaning and the capacity to feed and protect oneself. Third is the adolescent growth spurt, and fourth the extensive post-menopausal lifespans that are uniquely found in the human species. For chimpanzees and gorillas, death follows soon after the loss of reproductive capacity.

It can be argued that each of these life-history phases played a significant role in the evolution of the fully developed human imagination. Infancy and childhood are periods during which brain growth occurs within cultural settings. These specific cultural settings will influence the type of neural networks that are formed. Adolescence is a period of adult capabilities but usually without adult responsibilities. The elderly play a key role in the transmission of information to younger generations and are able to draw on long-term experience when formulating ideas.

Mithen (2007:9) mentions that the evolution of modern human life-history remains little understood, even though it has become a main topic within evolutionary anthropology during the last ten years. The specific details remain to be established, but it is clear that changing life-history patterns were partly a consequence of the evolutionary conflicts arising from bipedalism,[18] large body, and large brain size (Mithen 2007:10). A narrow pelvis is required for bipedalism to be effective. The narrow pelvis inhibits the birthing of large-brained infants. Human beings have, therefore, evolved so that the sculls of infants literally deform temporarily during the birth process, and they then continue their foetal rates of growth. The necessary outcomes, as Mithen (2007:10) describes it, are somewhat helpless infants who require substantial investment from nursing mothers. Infants and nursing mothers who gained support from their grandmothers/mothers had an increased chance of survival, while the grandmothers would have been enhancing the survival of their own genes into the next generations. This, according to Mithen (2007:10) is the probable reason why post-menopausal lifespans may have been selected.

The key species of concern, should the evolution of large brains and bipedalism indeed be related to the appearance of a human-like life-history, is *Homo ergaster,*[19] appearing in the fossil record at c. 1.8 million years ago (Mithen 2007:10). *Homo*

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[18] Bipedalism is the trait of walking upright on two legs and it defines the hominid lineage. Walking on two legs distinguished the first hominids from the rest of the four-legged apes.

[19] The KNM-WT 15000 fossil, also known as the Nariokotome boy, is the best preserved specimen, and Mithen (2007:11) makes the following remarks with regard to the Nariokotome boy: The precise ageing of this specimen has been difficult. The age estimate of this specimen is between 11 and 15 years old, but it evidently had a bipedal gait and modern human stature. The Nariokotome boy had a cranial capacity of 880 cm³, estimated to have reached 909 cm³ as an adult – twice as large as that of a chimpanzee but only equivalent to that of a modern human child.

*ergaster* appears to be a species with no useful living primate analogy. The life history of this species was most probably intermediary between modern humans and modern apes (Mithen 2007:11). It remains unclear when the fully modern human life-history evolved. Contemporary studies of the growth lines on Neanderthal teeth indicate that Neanderthal children may have grown up significantly more quickly than the children of modern humans (Mithen 2007:11). Therefore, as argued by Mithen (2007:11), it may have been only in the *Homo sapiens* lineage that the fully modern human life-history pattern evolved with an extended period of childhood after the split from the Neanderthals. This might well have a causal relationship to what seems to be the distinctive presence of symbolic thought and language in *Homo sapiens* and the generally greater capacity for imagination in the human species when compared with all of their hominid ancestors and relatives (Mithen 2007:11).

3.2.3 Step 3: Domain-Specific intelligences, 2.1-0.25 million years ago

The human creative imagination is, according to Mithen (2007:11), often considered as the capability to combine dissimilar types of knowledge and ways of thinking in order to create novel ideas and insights. The concept is closely related to Mithen's (1996) notion of cognitive fluidity.[20] The abovementioned can only be possible if human minds have ways of thinking and ideas to combine in the first place. In reference to this, a crucial step in the evolution of the human imagination was the presence of mental modules or cognitive domains dedicated to specific types of thought and behaviour that provided the 'raw material' for imaginative thinking (Mithen 2007:12). One of these is the theory of mind. The understanding that other people have minds/ thoughts and that these minds may contain desires and beliefs different from one's own is, according to Mithen (2007:2), likely to rely on specialized neural networks. These neural networks have likely evolved/developed for this specific purpose and can be usefully referred to as a mental module. Music, language, and

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[20] Mithen (1996:77-78) describes cognitive fluidity as the possibility of combining thoughts and knowledge of different specialized intelligences. Experience gained in one behavioural domain can now influence that in another. Distinct behavioral domains no longer exist. And brand new ways of thinking, subjects to think about and ways to behave arise. The mind acquires not only the ability but a positive passion for metaphor or analogy.

mathematics appear to rely on distinct mental modules as any of these capacities can be lost while leaving other mental capacities unaffected (Mithen 2007:12; 2005).

The archaeological and fossil records appear to support the position of evolutionary psychologists that distinct ways of thinking and stores of knowledge evolved in our human ancestors in order to address problems these ancestors faced in their natural and social environments (Mithen 2007:12; 1996). It remains unclear, however, how these are moulded by the developmental context. By 1.4 mya a main event in human evolutions had occurred. Hominids had spread out of Africa, and it remains unclear precisely when, how and why this was achieved (Mithen 2007:12; Mithen & Reed 2002). Key evidence is found at the site of Dmanisi in Georgia, where *Homo ergaster* was present by 1.7 mya. *Homo ergaster/Homo erectus* fossils have been claimed in Java by 1.8 mya (Mithen 2007:12).

Mithen (2007:12) points to, what he calls, the most startling of recent discoveries – a dwarf species of *Homo* on the Indonesian island Flores, designated as *Homo floresiensis*. The identified species dates to the late Pleistocene; however, stone artefacts from the island have been dated to 0.8 mya and they suggest colonization by *Homo erectus* (Mithen 2007:12). The reduction in this species' size might be due to isolation on a small island in the absence of predators. This is a process that has been frequently recorded for mammals such as deer and elephants (Mithen 2007:12).

The evidence from Flores Island raises two main issues with regards to creativity (Mithen 2007:12). Firstly, this 0.8 million-year-old arrival of *Homo erectus* on Flores Island (should that indeed be what happened) could indicate more advanced levels of technology and planning, such as building sea-going rafts. Mithen (2007:13), however, suspects that this could not have been the case. The reason is that the necessary isolation of *Homo erectus* on this island that resulted in the dwarfing process suggests a lack of regular movement between islands. They more likely arrived on the island by some sort of ecological accident rather than through deliberate purpose. The additional issue raised by the discoveries on Flores Island is more profound, according to Mithen (2007:13): "the brain size of *H. floresiensis* was less than 400 cm³ – less than that of a modern-day chimpanzee. And yet this species appears to have manufactured stone artefacts and engaged in what amounts to big game hunting." There is still great uncertainty as to what happens to the structure and organization of

brains during an evolutionary process of size reduction as would have occurred during the evolutionary transition from *Homo erectus* (Mithen 2007:14).

In reference to Europe, a *Homo* presence has been claimed in southern Spain at 1.8 mya; however, the most persuasive early date is 0.8 mya at Atapuerca in northern Spain (Mithen 2007:14). *Homo heidelbergensis,* which is a descendant of *Homo ergaster,* was established in northern Europe by 500 000 years ago, and it engaged in big game hunting (Mithen 2007:14). The substantial degrees of climatic and environmental change at all time scales ranging from millennium to seasonal during the period of the Middle Pleistocene required hominids to constantly adjust their behavioural strategies. In the light of such factors, Mithen (2007:14; 1996) has argued that early human beings must have possessed comparable levels of zoological and botanical knowledge to that which is found among historically documented hunter-gatherers. Mithen (2007:14) refers to this as a "natural history intelligence" and argues that this is the basis for "intuitive biology as found in modern human infants and the universal principles of ethno-biological classification that are found among modern humans."

The cognitive processes required for making complex stone artefacts are very different from the cognitive processes required to interact with the social world or those needed for interaction with the natural world. Complex stone artefacts, in Mithen's (2007:14) view, are the artefacts that involve a general understanding of fracture dynamics, platform preparation, forward planning, and mental rotation. These are essential in the manufacturing of hand axes and cleavers such as appear in the archaeological record of Africa from 1.4 mya. Axes and cleavers become a pervasive element of the archaeological record of the Middle Pleistocene throughout the Old World (Mithen 2007:14). Further levels of skill and technical knowledge are evident after 250 000 years ago when tools using the Levallois technique are present.[21] The Levallois technique was particularly mastered by Neanderthals in Western Asia and Europe.

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[21] Levalloisian stone-flaking technique, tool-making technique of prehistoric Europe and Africa, characterized by the production of large flakes from a tortoise core (prepared core shaped much like an inverted tortoise shell). Such flakes, seldom further trimmed, were flat on one side, had sharp cutting edges, and are believed to have been used as skinning knives (Encyclopaedia Britannica: 2016). Levallois technology is thought to have been an outgrowth of the Acheulean hand-axe.

This method is just as sophisticated as any other methods used to produce modern stone artefacts by modern humans. The use of the Levallois technique or bifacial knapping methods most likely, according to Mithen (2007:14), "required a bundle of mental modules, some of which had specifically evolved for manipulating physical objects and some of which may have been part of a general intellectual capability." This supposed 'technical-intelligence' possibly provides the intuitive physics found in modern human infants at present (Mithen 2007:14; 1996).

Early humans had acquired what Mithen (2007:14) calls a 'domain-specific' mentality with the evolution of specialized mental modules for interaction with the physical, natural, and social worlds. This means early humans possessed cognitive processes as complex and diverse as found within modern human beings, but then again these were restricted to specific domains of activity. Therefore theory of mind and other cognitive processes involved in social interaction, which Mithen (2007:15) has referred to as forming a 'social intelligence', could not be implemented for thinking about material objects or animals. Similarly the cognitive processes implemented for making stone tools could not be used for interacting with other people. According to Mithen (2007:14; 1996:59), it is only a 'domain-specific' type of mentality that can explain the sophisticated types of Early Human behaviour that are apparent in the archaeological record, and the cultural conservatism that existed throughout the middle and much of the later Pleistocene.

In relation to imagination, the domain-specific mentality of Early Humans would have allowed imaginative thoughts within but not across cognitive domains (Mithen 2007:15). This shows that *Homo neanderthalensis* or *Homo heidelbergensis* could have imagined the future behaviour of animals when planning their hunting activity. However, they were severely constrained at imagining how to design new stone artefacts to advance their hunting, because that would have required simultaneously drawing on cognitive processes within their natural history and technical intelligences (Mithen 2007:15). As a result the production of a small number of general-purpose hunting implements rather than a wide range of specialized artefacts as produced by modern humans is evident. Nonetheless, Mithen (2007:15) argues, those cognitive modules and intelligences they possessed ultimately furnished the 'raw materials' for the creative explosion that occurred with the origin of modern humans in Africa some

200 000 years ago. Mithen (2007:15) states that an essential ingredient for that was the evolution of fully modern language.
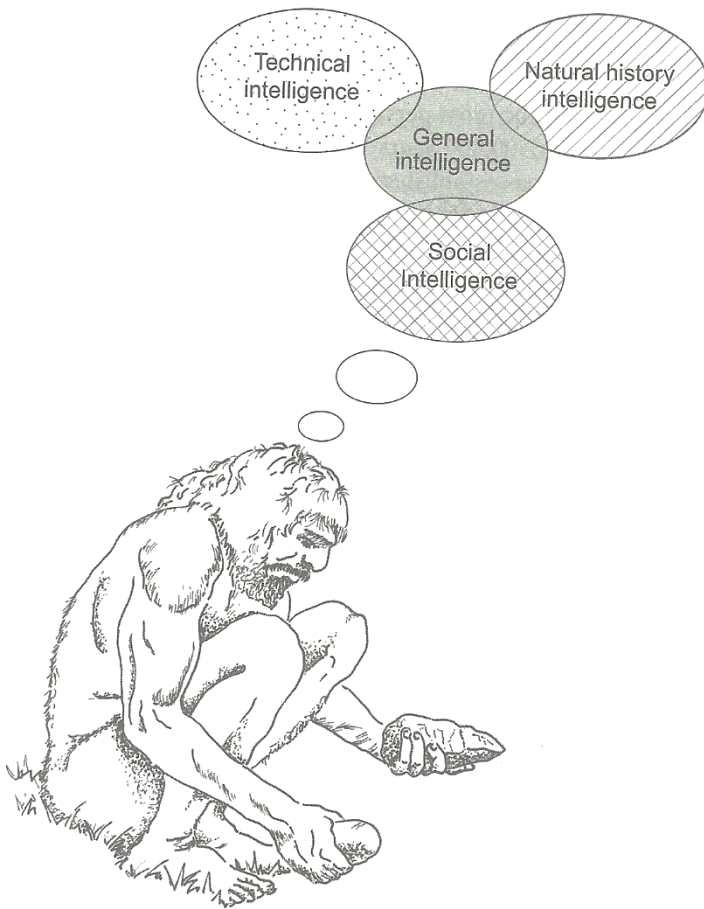


**Figure 1.** Domain-specific intelligences of the Early Human mind (Mithen 2007:13).

3.2.4 Step 4: The origin of language and music, 250 000-100 000 years ago

Since 1995 there has been a significant growth of interest in the evolutionary development of language and music. There are a diversity of opinions and approaches to the evolution of language and music as well as the relationship, if any, between their origins. Mithen (2007:15) mentions that one of the main reasons for the on-going disagreements about the origin of language is that the fossil and archaeological records appear to tell quite different stories. According to the fossil records, a vocal tract effectively distinguishable from our own had evolved by the time of *Homo neanderthalensis* (0.25 mya), and probably even *Homo heidelbergensis* (0.5 mya) (Mithen 2007:16). Mithen (2007:16) further points to the difficulty of explaining, given the complexity of hominid behaviour prior to 0.5 mya, the enlargement of the brain

after that date if this was not to provide supplementary neural circuitry for complex vocal communication. On the other hand, Mithen (2007:16; 1996; 2005) mentions that the absence of symbolic artefacts in the archaeological records of pre-modern humans, the extreme levels of cultural conservatism, and the limited indications of site structures, seem to be clear signs that language did not mediate the behaviour. There appears to be a paradox concerning the origin of language. The archaeological record suggest that language was restricted to *Homo sapiens* alone, while the fossil evidence suggests that language originated relatively early so that *Homo heidelbergensis* and *Homo neanderthalensis* as well as *Homo sapiens* would have been language-using species (Mithen 2007:16). According to Mithen (2007:16), this paradox can be resolved by recognizing that the communication systems of the Early Humans were considerably more complex than was previously realized. They were indeed quite different from the present-day non-human primates' vocalization; however they were still fundamentally different from modern human language.

Mithen (2007:16) is of the opinion that the Early Human communication system had five key characteristics. Firstly, Mithen (2007:16) argues that the utterances were holistic rather than compositional: "Modern human language is compositional in the sense that utterances are constituted by words, each with their own individual meanings, which are combined with others by grammatical rules to create additional, emergent meanings." Proto-language was quite different in the sense that each utterance had a single meaning and was not formed out of sub-units that could be combined in alternative ways (Mithen 2007:16). A holistic proto-language would predict a type of cultural conservatism that appears to be characteristic of the Early Humans (Mithen 2007:16; Wray 1998, 2000). The second feature of the communication system of the Early Humans is that is was mainly manipulative in nature rather than referential (Mithen 2007:16). This implies that instead of changing the knowledge of others, it acted to manipulate their behaviour. Mithen (2007:16) argues that the third feature is that this communication system is likely to have been multi-modal in the sense that facial expression, gesture, and body language in general played a main role in it. Body language, gestures, and facial expression in modern human language are substantially diminished from that found among Early Humans, even though they continue to play a significant role. Early Human communication also had a music-like character, as is indicated by Mithen (2007:17) as the fourth feature.

They made significant use of variation in melody, rhythm, and pitch in order to influence the meaning of the holistic utterance. This particular feature of Early Human communication would have been present in both Early Humans' body movements and their vocal utterances. The former is facilitated by the evolution of bipedalism, which considerably enhanced the expressive use of the human body (Mithen 2007:17). Mimesis would be the fifth and final character of Early Human communication. According to Mithen (2007:17), the imitation of animals, specific events, people, etc., by using both their voices and gestures, is likely to be essential to the holistic utterances of Early Humans. Currently this is a further feature that continues within language, especially with regards to gesture. The Early Human communication system then was likely to be holistic, manipulative, multi-modal, musical, and mimetic. Mithen (2007:16) argues that this appears to have provided Early Humans with a "sufficiently complex and sophisticated system to be compatible with their evolved vocal tracts and large brains." This system, however, lacked the two main features of modern human language – words and grammatical rules.

The five characteristics of the Early Human communication system were the evolutionary precursors of both language and music (Mithen 2007:17). Some scholars (Mithen 2007:17; Wray 2000) have used the term 'segmentation' for the evolutionary process through which people began to attach particular meanings to phonemes or syllables that had been part of holistic utterances. Other scholars (for example, Kirby 2000, 2002) have shown how a compositional language can evolve out of a holistic communication system if the latter has to pass through a cultural learning bottleneck (Mithen 2007:17). It is this type of process which most likely transformed the Early Human communication systems of the immediate ancestor of *Homo sapiens* in Africa, referred to as *Homo helmei,* or perhaps the earliest *Homo sapiens* themselves, soon after modern humans evolved at around 200 000 years ago (Mithen 2007:17). This date would also have been the origin of music, which can be conceived as the remnant of the characteristics of the Early Human communication system once its language-like elements had been transferred into newly evolved language systems (Mithen 2007:17; 2005). The music, as a remainder, was a complementary communication system that specialized in expressing emotions and facilitating group bonding – roles that are still accomplished by music in the present day.

### 3.2.5 Step 5: Cognitive fluidity, 250 000-100 000 years ago

Mithen (2007:18) begins his discussion of this fifth step in the evolution of imagination by stating that language enables a far more efficient exchange of information and ideas between individuals than could have ever been achieved by the communication system of the Early Human. Language can be characterized as enabling the development of a distributed cognition. Such a cognition creates ideas that could certainly not have been entirely conceived within a single human mind alone (Mithen 2007:8). This is not the most significant impact of language on the human capacity for imagination. Mithen (2007:18; 1996) argues that language would have delivered cognitive fluidity to the mind. Human beings were able to generate new types of thoughts by integrating stores of knowledge and ways of thinking from previously isolated intelligences (Mithen 1996:76). This resulted in new types of cultural behaviour.

Mithen (2007:19; cf. Carruthers 2002) argues that the 'imagined sentences' humans create in their minds allow the outputs from one domain/intelligence/module to be combined with those of another through which new types of conscious thoughts are generated. It is therefore with the capacity of language that the 'raw material' of the human imagination could be exploited to enable types of ideas that were quite beyond the ability of the Early Human communication system (Mithen 2007:19). To be specific, this would refer to ideas such as imaginary entities that are part-human and part-animal, which require the combination of social knowledge and natural history (Mithen 2007:19; 1996). Those entities play an important role in the first representational images known to humankind. Such entities are frequently found in prehistoric rock art traditions and are pervasive in the religious systems of hunter-gatherer communities.

Other types of cognitively fluid ideas would, according to Mithen (2007:20), have had more practical value. Modern humans were able to design and create more effective hunting weapons, which were specialized for exploiting specific animals in very particular circumstances. This was achieved by combining aspects of technical intelligence and natural history. Correspondingly modern humans were able to use material objects to mediate their social interactions, by combining social and technical intelligence. The earliest evidence are the shell beads found at Blombos cave dating to c. 70 000 BP, which is also the site where the earliest traces of symbolic designs

are evident (Mithen 2007:21; cf. Henshilwood et al. 2004; 2002). More generally, Mithen (2007:21) argues, cognitive fluidity provided the possibility for metaphorical and symbolic thought; it enabled the development of art, religion, and science.

3.2.6 Step 6: The extended mind, 250 000 years ago to the present

The sorts of thoughts made possible by cognitive fluidity required a solid evolutionary foundation within the mind, since the powers of human memory are limited (Mithen 2007:21). These thoughts therefore could be effectively manipulated, transmitted, and maintained only by downloading such thoughts into material culture, initially sculpture and paintings, and then writing about 5 000 years ago. Material extensions of thought as such are critical to the human imagination and, as mentioned by Mithen (2007:21), should be regarded as part of the human mind itself.

The most striking example are ideas of religious beings which require the combination of different types of knowledge (Mithen 2007:21; 1996). These sometimes require knowledge of animals and people in order to create ideas about supernatural beings, as reflected in the ice-age carving of the 'man-lion' from Hohlenstein-Stadel. Sometimes knowledge of material objects and people are required for conveying animistic ideas, such as the statue of the Virgin Mary that sheds tears. Mithen (2007:21) argues the explanation of such ideas to other people who lack any material representation is challenging, because there is no natural basis for such ideas within the mind. In order to overcome the limitations of the human mind, challenging thoughts can be downloaded into either a symbolic or a representational image to act as a 'cognitive anchor' (Mithen 2007:21; 1998). The broad spectrum of rituals, statues, scriptures and buildings typically associated with religious traditions begins to look like essential components of the relevant machinery of religious thought. Without these elaborate layers of cognitive technology, the gods would be to some degree or another unthinkable (Day 2004:116-117 & Mithen 2007:22). This is one aspect of what is generally known as the extended mind and it includes the use of material culture as a means to overcome the limits of human memory and computational thought. Material cultural extensions to the mind are, according to Mithen (2007:22), the cognitive equivalent to the way that architecture, technology, and clothes extend human physical and physiological capacities. This way of implementing material culture is a result of cognitive fluidity. It enables a vital increase in human imaginative powers. As

Mithen (2007:23) states, it reached its apotheosis with writing, as this enabled ideas to be downloaded and then transmitted in quite explicit forms across generations. Our own imaginations today are still enhanced by the thinking of the past.

3.2.7 Step 7: Sedentary farming lifestyles, 11 600 years ago to the present

With sedentary and farming lifestyles emerged the right conditions for the invention of writing. These lifestyles created the economic and social need for writing as a form of communication, which originally appeared as a means of record keeping (Mithen 2007:23). An economic surplus was provided by farming in order to support the specialists who learnt to read and write, and who manufactured the crafts for exchange. Mithen (2007:23) mentions that sedentary lifestyles provided an enormous expansion of the extended mind through the construction of monumental architecture and the accumulation of material possessions. The archaeological records provide evidence that farming and sedentism do not always work and develop together (Mithen 2007:23). Developments in the prehistoric sedentary mobile-farmer and hunter-gatherer communities were indeed impressive. Mithen (2007:23) argues, however, that the combination of farming with sedentism had the most remarkable cultural impacts and resulted in the rise of 'civilization'.

The most vivid evidence of this development is illustrated in south-west Asia. Mithen (2007:23) provides the following account:

> The earliest settled farming communities arose in Early Holocene within the western and central parts of the Fertile Crescent, represented by the Pre-Pottery Neolithic B villages and towns, such as Jerigo and ʾAin Ghazal in the Jordan Valley and Çayönü in South East Turkey (Bar-Yosef and Meadow 1995; Mithen 2003). These were present by 10,000 years ago and had witnessed remarkable cultural growth by 8,500 years ago as evident from the artworks and architecture sites such as Çatalhöyük in Anatolia (Mellaart 1967) and ʾAin Ghazal (Schmandt-Besserat 1998) in the Jordan Valley. Although not sustained in the Jordan Valley because of environmental degradation, this development of towns and trading formed the cultural precursor to the first civilizations of Mesopotamia, where writing originated.

The imaginative potential of modern human minds is increased by the development of such farming and sedentary lifestyles. According to Mithen (2007:24), this was due,

on the one hand, to the specialists, supported by economic surplus, who could primarily devote themselves to craft skills and eventually to mathematics, science, music, and poetry. It was also, on the other hand, due to the way in which minds were further extended, originally by monumental architecture and artworks, then by means of writing, and in the present-day by devices such as film and internet.

Mithen (2007) believes it is by means of these seven steps that the modern human imagination evolved. It is worth mentioning that another anthropologist might have included, excluded or even added alternative steps to the process Mithen describes. Mithen (2007:24) emphasizes that even though he has characterized the evolution of imagination as consisting of seven steps, he did not mean to imply that this was, in his words, "a progressive process in the sense of a gradual improvement of the human condition." Even though the complexity and extent of human imagination have certainly increased, this has had lethal as well as beneficial effects for humankind (Mithen 2007:24). The modern human imagination created the Holocaust and global terrorism, but also the great works of art, literature, and science. Mithen (2007:24) also states that 'imagination' itself, in the evolutionary scenario he proposes, is rarely, if ever, subject to selection. The evolutionary history of imagination is principally a by-product of other developments. Mithen (2007:24) explains that modern human life history evolved under conditions of changing brain size and body. However, it fortuitously created conditions in which brains could mature under cultural influences and it provided children with 'time to play'. Language fortuitously led to the creation of new ideas by enabling cognitive fluidity even though it was most likely selected to enhance the communication of information. Mithen (2007:24) is of the opinion that the modern human creative imagination was largely an accident of evolutionary history.[22]

In conclusion Mithen (2007:24) stresses that the human imagination is the product of an evolutionary process that did not terminate with the appearance of anatomically modern humans or language. In the present day its evolution is an on-going process. This process is not necessarily evident in the biological sense, but in the continued invention of new types of material culture that augment and extend the powers of the

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[22] This view is also known as the "accident hypothesis", and has been amply critiqued.

human mind (Mithen 2007:25). It remains quite unknown if there are limits to the human imagination and whether these limits have been reached.

I will now turn to the perspective of Agustín Fuentes on the origin of the human imagination. In agreement with Mithen, Fuentes believes that it is the capacity for creative imagination that is distinctive to the human species, and also enabled our evolutionary success and flourishing. Consequently, Fuentes takes up some of the crucial themes discussed by Mithen and develops them against the background of niche construction theory. For both Fuentes and Mithen the human capacity for imagination developed as a reaction to the various ecological and social challenges genus *Homo* faced during the Pleistocene. Furthermore, Fuentes builds on and expands Mithen's notion that the capacity for imagination paved the way for the development of other human capacities such as religion and art.

## 2.3 AGUSTIN FUENTES: THE EMERGENCE OF IMAGINATION AND THE HUMAN NICHE

In his fascinating publication *The Creative Spark: How Imagination made Humans Exceptional* (2017a), Fuentes reviewed hundreds of studies from anthropology, neurobiology, and psychology, as well as archaeological and fossil records, to explore the prominent role of imagination and creativity in the evolution of the human lineage. Humans have incredible creative potential. Fuentes (2017b: ad loc.) states: "our knack for creating megacities, double-decker airplanes, cures for hundreds of diseases, symphonies, and virtual reality games, among other remarkable inventions, attests to our capacity to imagine possibilities and make them real." Therefore, the human ability to imagine outcomes is first and foremost the driving force behind our capacity to be creative. Creativity, according to Fuentes (2017a:1) is built on imagination, experiences, and interconnections of ideas. Humans are creative every day, but this is not accomplished alone. Innumerable individuals' ability to think creatively has led the human species to succeed. Consequently, collaboration is the initial condition of any creative act (Fuentes 2017a:2). Creativity is the ability to move back and forth between the realms of "what is" and "what could be." Imagination, however, is that which initiated this movement of creativity. In understanding the details of how the human creative process worked in relation to the way our human ancestors got food,

dealt with one another and the planet, and channelled creative energies and capacities into ever-expanding innovations, Fuentes (2017a:48) argues we can get a better grasp of our position in the world and it may help us shape our future. With reference to us, *Homo sapiens sapiens*, Fuentes (2017:48) makes this striking statement:

> Ours is the a story of how we got from a small group in the hominin lineage that could make simple stone tools and creatively cooperated to avoid being eaten, to the controllers of fire and the hunters of large game, to the creators of art, farming, science, religion, cities, and nations, and even to piloting spaceships to other planets and beyond while we investigate the beginning of the entire universe. Our next steps had best be creative too.

Fuentes (2014a:241) begins his discussion on the emergence of a distinctively human imagination by stating that the pursuit of understanding the human propensity for imaginative action can be aided by investigating more fully the core role of the evolutionary transition between becoming and being human.[23] Interestingly, Fuentes (2015c:182), asserts that a generous evolutionary anthropology in dialogue with other disciplines, including theology, can add substantially to the potential for understanding the patterns, processes, and implications of becoming and being human. Even though some of the keys to understanding this process lie in a comprehensive assessment of hominin[24] evolution over the last six million years, Fuentes (2014a:242) stresses that the most substantial factors are to be found in the evolutionary patterns and processes in the genus *Homo* during the Pleistocene. These factors are particularly to be found in the terminal portion of that epoch and the transition from archaic forms of the human genus (*Homo* sapiens) into the current form (*Homo* sapiens sapiens). According to Fuentes (2014a:242) and others (Anderson, Törnberg, & Törnberg 2014; Gamble, Gowlett, & Dunbar 2011; Foley & Gamble 2009; Kuhn & Hovers 2014; Shea 2011; Sterelny 2012; Tattersall 2012), morphologically and behaviourally this takes place

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[23] By "becoming" human Fuentes (2014a) refers to the aspects of human evolution from the appearance of the human genus to the emergence of undisputable *Homo* sapiens (~150 000–200 000 years ago), and by "being" human he refers to evolution in the human species since that time.

[24] By using the term "hominin" Fuentes (2014a:254) includes humans and all of those genera and species derived from the lineage that split with the chimpanzee lineage (~8–10 million years ago).

across populations of ancestral *Homo* sapiens around 400 000 to 100 000 years ago at the end of the Pleistocene.

Fuentes (2014a:248) mentions that the system in which humans evolved, the distinctive niche partially created, and wholly occupied, by humans, has rather been restructured in such a way that humans have become amongst the most successful mammals on the planet. Human beings are organic life forms like all other forms of life on the planet. The basic ecological and evolutionary processes are the same for humans as for all other forms. However, as supported from the brief review of human evolution in this chapter, humans often deal with the challenges emerging from these basic evolutionary and ecological processes in ways that are substantively distinct from other animals. In other words, as argued by Fuentes (2014a:249), human beings are not playing under a different set of "rules" from other beings, but they are most definitely responding to those "rules", and maybe even bending them, in distinctive ways. The evolutionary history of human bodies and behaviour suggests that humans cooperate, coordinate, create, destroy, imagine, believe and hope in ways that are distinctive from the rest of the world. Even though the chemistry and molecules of humans are not different from those of other animals, the way humans have been shaped over the course of evolution produces a system (human bodies and minds) that has a much wider range behavioural capacities, options, and flexibility than most others (Fuentes 2015a: ad loc.). Human beings consequently have a distinctive ability to combine their minds and bodies to shape the world around them. Fuentes (2015a: ad loc.) therefore mentions that many animals cooperate (i.e. ants and meerkats), many have an impact on the environment (i.e. beavers, termites, earthworms, etc.), and some are certainly self-aware (for example apes, whales, and elephants), but none combine these elements with the intensity, scale, and complexity that humans do. The human adaptive niche is one of cooperating, coordinating and creating. This provides the context to understand how human indistinctive molecules and chemistry became distinctive biology and behaviour.

Should there be a naturalness to the human imagination then, according to Fuentes (2014a:242), the question should be asked how such an imagination, as a system, emerges over the course of human evolution. Fuentes (2015a; ad loc.) makes the following comment on the emergence of imagination:

As humans became more and more reliant on creativity, innovation and cooperation to make it in the world, our sharing of ideas, our abilities to communicate them and our capacities to manipulate the world around us created a novel context, a conflux of processes not seen in other organisms, which produced one of the most distinctive patterns of humanity: imagination.

Imagination, according to Fuentes (2015a: ad loc.), is the capacity to exist in a perceptual reality in which everything (for example, trees, colours, foods, daily routines, social relationships, etc.) is infused with meaning. This meaning goes further than the material elements, further than the specific actions, further than the palpable at-hand experience. Evidence of this imagination can be found as early as 300 000 years ago. This evidence includes shells and beautiful symmetrical stone tools that were never used, or lines drawn on pieces of ochre. Cave paintings, carved figures, shell necklaces and murals from the last 120 000 years can be found, all of which are evidence of a complete human imagination (Fuentes 2015a: ad loc.). According to Fuentes (2014a:249), the imagination and the infusion of symbolic meaning into the world by genus *Homo* in the late Pleistocene is what underlies and forms a basis for the human species' current ability to develop a metaphysics which in turn facilitates structured religious beliefs. This backdrop of meaning and accompanying imagination is also a system that expedites a range of other meaning-laden and symbolic aspects[25] of human behaviour and experience. These aspects are core components of the human species current niche and lives.

Fuentes (2014a:249) argues that the ways in which symbols are generated, perceived, and utilized may be relevant in structuring the perceptions and behaviour of humans so that the "material" world is never without symbolic meaning. This suggests that with the occurrence and increasing use of symbolic representation, the human landscape became, by definition, always more than material and always somewhat reliant on socio-cognitive interpretation and individual and group variability in experience. Consequently, according to Fuentes (2014a:250), evolutionarily relevant actions may be influenced by variable semiotic "realities" originating from the range of experiential

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[25] These aspects include nationalism, clan/tribal fealty, totems, charms, sports allegiances, global organizations, etc. (Fuentes 2014a).

and perceptual possibilities influenced by the human imagination. At some point in the last 400 000 years language and hyper-complex intentionality became expressed in human populations. As Fuentes (2014a:250, cf. Tomasello 2014) mentions, language and hyper-complex intentionality consequently act to capture the more than material as the permanent perceptual state of humans, laying the groundwork for the possibility of metaphysics as part of the human experience. Fuentes (2014a:250) points to recent work in neurobiological, developmental, and archaeological contexts which evidently demonstrates that action, perception, and cognition cannot be treated as separate domains as they are intertwined in the human system. The focus should, therefore, be on cooperative interfaces emerging from the integration of cognitive functioning, behavioural action, and physiological perception.

Considering the archaeology and palaeoanthropology of the genus *Homo* through the Pleistocene, the increasing feedback between ecological, social, and material complexity becomes evident, which must be influencing both perception and action – neural, physiological, and behavioural development (Fuentes 2014a:250). Fuentes (2014a:250) goes on to mention that as communicative and social interactions become increasingly dense, and symbolic and temporally diverse representations emerge with greater frequency, it is highly probable that such patterns become a normative aspect of perception and experience for human ancestors. It begins to pervade their lives as landscapes, foods, animals, and other groups of hominins become simultaneously material and semiotic elements in the world. Additional contexts for expansion of the social and cognitive complexity[26] are provided through the envisioning of the abovementioned patterns in interaction with the extended and more complex life histories that characterize more recent members of the genus *Homo*. According to Fuentes (2014a:250), this process then becomes part of the "feedback loop" in the niche construction and other evolutionary processes shaping, and being shaped by, members of the genus *Homo*. The system referred to above has to be understood in an evolutionary perspective, and therefore its origins lie deeper than the Pleistocene, even though concrete evidence for such scenarios can be seen

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[26] For example, longer neurological development, increased cross-generation interactions, increased variety of physiological and social roles across individual lifespans, etc. (Fuentes 2014a:250).

in the last 400 000 – 100 000 years (Fuentes 2014a:250; Deane-Drummond and Fuentes 2014).

Human ancestors, according to Fuentes (2017a:54), created new ways to access the energy required to expand their brains, bodies, and behaviour over the course of the following million and a half years. They accomplished this by modifying stones and wood, working together to expand their food options, and eventually mastering fire. Fuentes (2017a:55) mentions that the evidence of this exceptional capacity starts with our lineage's ability to reshape rocks into tools. These early stone tools or shaped rocks were the starting point of a distinctive history of changes to human brains and bodies. For Fuentes (2017a:56) the simple edged stones and sharp flakes of the earliest tool manufacturing are the first hard evidence of the human lineage's ability to see more than what is simply in front of them, to create new form and function in the world. Even though the use of stones and sticks as tools, especially in search for food, is not uncommon in the animal kingdom, the significant altering of stones or sticks to make better tools is (Fuentes 2017a:56). Animals that make use of tools tend to select rocks or sticks that are of sizes and shapes that would work well for the intended task. But, according to Fuentes (2017a:57), no other animal in the wild, not even chimpanzees, can look at a rock, understand that 'inside' that rock is another more useful shape, and use other rocks or bone or wood to modify that rock – and on top of it all then share that information with the members of his or her group. It is exactly this process that originated 2 to 3 million years ago, at the start of the human lineage. Fuentes (2017a:58) explains that making and using stone tools involves a lot more information, collaboration, and creativity than merely selecting a rock or stick, as it is, to use. The earliest and simplest stone tools associated directly with the human lineage are the work of the Oldowan manufacturing.[27] On this matter Fuentes (2017a:58) says:

> The making of the Oldowan tools required a set of manipulations made possible by hands like ours and a capacity for predicting the outcomes of hitting the rocks in certain ways (physics!). Most important, each group seems to have had many toolmakers (possibly everyone in the group was a toolmaker). This suggests a process of sharing

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[27] The Oldowan industry is named after the Olduvai Gorge in Tanzania, where these tools were discovered by the archaeologist Louis Leaky in the 1930s (Fuentes 2017a:58).

information, passing around the knowledge to make and use these tools within groups and across generations – the first tangible sign of our collaborative creativity.

Two core features of our evolutionary history are the result of this simple stone tool-making process, namely, it opened up a space for our ancestors to grow their brains and it increased social and cognitive complexity (Fuentes 2017a:59). Furthermore, an interesting by-product is linked to these tools. In effect the behaviour and collaboration involved in manufacturing tools actually altered the way our ancestors used their brains and resulted in alterations in the way their, as well as our, brains work (Fuentes 2017a:59).

Fuentes (2017a:60) refers to teams at the University of St. Andrews in Scotland and Emory University in the United States who began programmes training people how to make stones into tools, including the Oldowan-style tools (Hecht et al. 2015:2315-2331; Morgan et al. 2016:6029; Stout 2016:28-35). The researchers in this programme combined the tool-making process with a series of brain scans in order to see what specific areas of the brain might be affected by the process of learning how to create these tools and then becoming skilled at making them (Fuentes 2017a:60; Hecht et al. 2015:2315-2331; Morgan et al. 2016:28-35). Both the Emory group and the St. Andrews teams discovered changes in the connections and organization in the brain associated with training hours and actual performance of making the tools. The Emory group (Hecht et al. 2015) demonstrated that learning how to manufacture Oldowan tools generates different patterns of activity in the visual cortex at the back of the brain before and after practice. This indicates that the action of tool making shapes the way the brain responds to stimuli and consequently that learning – when making stone tools – can shift brain activity. More complex tool-making activity had the clearest effects on the supramarginal gyrus in the parietal lobe and right inferior frontal gyrus of the prefrontal cortex (Hecht et al. 2015:2322-2328). Fuentes (2017a:60) explains that these brain areas are associated with planning complex actions, advanced cognition, and possibly also the development of skills in language. The researchers (Hecht et al. 2015:2322-2328) also discovered that other individuals who were just observing the toolmaker could experience some increases in activity in that same brain area as well. According to Fuentes (2017a:60), this suggests that the action of tool making, as well as watching, and imitating, and communicating about tool making, can initiate and expand the activity and dynamics of particular areas in the brain – areas

that we know began to grow between 2 and 1 million years ago, and areas that are finally associated with various high-level cognitive behaviours such as language.

The complexity of tool making and the diversity in types of tools increase as does brain size and diversity of food types, and this, for Fuentes (2017a:61), demonstrates a feedback process in action. As is mentioned before, this process is called niche construction – the tools, brains, and behaviour all interact to facilitate a specific pattern of relations between *Homo* and their environments (Fuentes 2017a:61). A series of feedback loops that affect one another and create outcomes of increased efficiency and effectiveness is produced in this process. But, as Fuentes (2017a:61) emphasizes, the remodelling of the way the brain works did not happen in one clear-cut swoop.

A new type of stone tool is evident in the archaeological record about 1.5 million years ago in Africa and then also in other parts of the Old World as the human lineage spread. This tool industry is known as the "Acheulean" and can be divided into an early phase of about 1.5 million years ago to about 700 000 to 900 000 years ago, and a later phase, around 700 000 to 250 000 years ago (Fuentes 2017a:61). These tools differ from the Oldowan tools in that they are more varied and have new features, and forms, that make them both better to use and harder to manufacture. According to Fuentes (2017a:61), the early Acheulean manufacture produced more than just choppers and cutters, and it adopted the increasingly common method of refining tools by removing smaller flakes on both sides of the edge, consequently making sharper and more resilient edges. It is also in the Acheulean phase of tool making that hand axes start to show up, and they last as part of the human tool kit almost into contemporary times (Fuentes 2017a:61).

A crucial feature underlying these innovations is, as Fuentes (2017a:61) asserts, greater pre-modification of the core – the rock from which a flake is knocked off – in order to create specific patterns in the surface of the core so that the likelihood of getting a really good flake is improved. This required additional preplanning and an additional multi-layered visualization of what the end result could be (Fuentes 2017a:61). This method differs from the earlier Oldowan method. There are even more steps of preparation, and of envisioning multiple stages to the process, before it is even begun. Fuentes (2017a:61) notes that this method requires more involvement of

different areas of the brain as well as increasing flexibility of cognitive function. Over time this process became even more advanced and complicated (2017a:62-63). The bottom line for Fuentes (2017a:64) is that by 500 000 years ago, human ancestors were making novel tools that required foresight, nuanced communication, a certain amount of teaching, and a high level of manual dexterity. It takes great amounts of brainpower and complex communication to develop progressively more complex tools. Fuentes (2017a:65) explains that "it was through the early tools that our ancestors began to set in motion the processes that provided the possibilities of change – the new niche of increased nutrition, brain growth creative collaboration, manipulation of the environment, and so on." Consequently, groups of *Homo* gradually grew smarter and became more capable of imagining outcomes (Fuentes 2017a:68).

The creativity involved in getting food inevitably set the stage for experiments in early hunting (Fuentes 2017a:73). The creative and social ways in which early *Homo* got food created a feedback loop that shaped their evolution and, according to Fuentes (2017a:77), hunting spurred  this process on. This feedback loop linking the nutritional stresses of growing brains and bodies, the shaping of stones and wood into tools, the collaboration and communication necessary for power scavenging, and honey gathering and processing, accelerated the changing brains and behaviour of *Homo,* increasing their capacities for creativity (Fuentes 2017a:77). Not long after this, human-style organized hunting followed, which also drove communication skills. Fuentes (2017a:77) explains that human-coordinated hunting is far more than a mere gathering of primates running around trying to capture animals to consume: "it is a group of individuals using communication, collaboration, and tools to capture elusive and sometimes dangerous prey."

Next came the power of cooking. In order to cook, one needs to control fire. Being really smart at putting cause and effect together and, important, imagining more possibilities than directly meet the eye by this point, some members of early *Homo* would sooner or later realize that exposure to the heat and chaos of the flames caused changes in the meat and made it better (Fuentes 2017a:81). Also, the ability to be free from the limitations of daylight to work and to play was to become a key turning point in what made our ancestors human – fire and light became catalysts for immense increases in our creativity and productivity (Fuentes 2017a:82). The narrative of

human eating is characterized by innovation, collaboration, and experimentation. Through the course of the history of the human genus, the making and carrying of food and tools and the ability to expand their range brought them into contact with novel kinds of foods and novel challenges. Fuentes (2017a:83) argues that being able to deal with that effectively involved an emerging package of capabilities: power scavenging and ultimately hunting, increasing the diversity of what they consumed and just how they got that food, advancing from simple to complex tool types, and eventually becoming experts at outsmarting predators. These capabilities lowered the odds of dying from exterior sources, which effectively extended childhoods and allowed for the increase in body and brain size. For Fuentes (2017a:83) each and every single aspect of these changes involves innovation and collaboration at both the individual and the group levels, which is ultimately human creativity.

In order to fully comprehend the development and expansion of these features beyond those possible a few hundred thousand years ago, Fuentes (2017a:83) argues we have to shift our focus to another distinctive human pattern, which is the ways in which we create and live in communities. Intertwined with this reality is the reality of domestication of plants and animals for food security. The creation of communities should, following Fuentes (2017a:83), be understood as a dynamic force in our evolutionary trajectory, and not merely an outcome. No other species works together to collect, prepare, and share food in the way humans do. Fuentes (2017a:85) asserts that human beings deal with all the problems the world tosses at them as a community, for example, food, shelter, safety, innovation, childcare, illness, and even death. One can say that humans have a distinctive capacity for getting and acting together, or as Fuentes (2017a:86) puts it, "it is part of our niche, the way we 'make it' in the world." Also, nothing else on this planet expresses the kind of massive compassion and coordination in the face of adversity as humans repeatedly do (Fuentes 2017a:86). It is the capacity to develop this level of complex community, and the coordination and cooperation involved, that was, according to Fuentes (2017a:57), an essential precursor for human ancestors to make the jump from being excellent hunters and gatherers to mastering the manipulation of plant and animals, also known as domestication. On the point of food security and domestication Fuentes (2017a:105) states: "The products of domestication – from dairy cows and fainting goats to hairless

dog breeds and turkeys with twelve-pound breasts – reflect human imaginative capacity."

From early in our evolutionary history it became clear that humans live in communities, which have been much more than just groups. Fuentes (2017a:87) describes the human community as a collection of individuals who share a sense of belonging, or "kinship." The community is also the primary source of shared development, knowledge, and security, typically across an individual's lifespan. Communities share meaningful emotional bonds and experiences. But, Fuentes (2017a:87) argues, in order to build a community, the individuals first have to live together, and there are many challenges facing any animals trying to live together in a social group. Two of the most basic challenges are coordination and size. Coordination merely means being together, almost all the time, and still being able to get along, get enough food, and not get eaten (Fuentes 2017a:88). Evident in the fossil record and archaeological data is that over the course of evolution our brains got bigger and more complex, and this is also applicable to our social groups. Following Fuentes (2017a:89), the capacity for ever larger communal coherence is the result of human imagination and creativity. In a detailed description Fuentes (2017a:89-93) explains how our ancestors expanded their capacities to get along, to live in larger groups, and to eventually move from groups to communities. In short, Fuentes (2017a:93) illuminates two processes that played a part in how key parts of the human community developed over this time:

1) The new ways of thinking involved in the transition from early stone tools of the Oldowan to the Acheulean more complex toolkits, and
2) The caretaking not just of infants but of one another with the emergence of compassion as a central part of the human community.

So, over the course of the some 2 million year history of the human lineage, our ancestors developed from being the first creatures to manufacture stone tools to being the technological masters of the planet – and it all started with figuring out a better way to get food. For that we had to have the capacity to imagine.

From this ability to imagine, in the context of the human species fundamental patterns of cooperation and creativity combined with their self-awareness, arose distinctively human processes of hope and belief (Fuentes 2015a: ad loc.). Hope enables humans to be even better at cooperation and creativity. Belief develops from the interface of

hope and imagination (Fuentes 2015a: ad loc.). In the history of humanity, particularly over the past 12 000 years, the development and increase of major belief systems[28] played a key role in the shaping of distinctive societies and landscapes of the world today. The possession of an imagination, and even possibly hope,[29] is implied by: "Existing in a semiotic landscape where the material and social elements have symbolic properties, and where communication and action can potentially involve, and be influenced by, representation of both past and future behaviour, and perception" (Fuentes 2014a:250). In this case hope is defined by Fuentes (2014a:250) as the expectation of future outcomes beyond the predictable. He implies more than basic predictability, which is a feature used by many species regarding cost and benefit considerations regarding actions in fighting, foraging, etc. The "hope" referred to by Fuentes (2014a:254) is rather the:

> use of the imagination (deriving from meaning-laden and temporally dynamic landscapes and social lives) to provide individuals, and possible communities, with stimulus and justification to undertake actions or endeavours with wholly unpredictable outcomes or that under normative conditions of predictability would be interpreted as leading to failure, danger, or even death.

Unfortunately, as argued by Fuentes (2015a: ad loc.), all of the elements that enabled the distinctive human niche and humans to be such a successful species may also lead to what might be a truly unique ability of the human species: intentional destruction and cruelty. No other species known is capable of combining cooperation, creativity and imagination towards deliberately making others suffer, even in the absence of specific material reward (Fuentes 2015a: ad loc.). Humans, unlike any other species on this planet, coordinate and intentionally and creatively cause excessive suffering to others, to landscapes and even to entire ecosystems. And this is sometimes done with alarming efficiency.

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[28] These major systems of belief refers to systems of faith, moral systems, political and economic ideologies, etc.

[29] The expectation of future outcomes beyond the predictable.

With regards to this point, Fuentes (2014a:250) is not making an argument for exaptation.[30] The claim is rather that this particular process arises as a component of the human niche. This takes place as it dynamically moves through the Pleistocene, and in essence it is a part of the human toolkit. The human toolkit had considerable benefits, as well as potential impairments for communities and individuals in both the past and present. The genus *Homo* faced innumerable ecological and social challenges by the late Pleistocene. Bearing that and the complexity of their niche in mind, Fuentes (2014a:251) states that "one can viably argue that being able to deploy cognitive and behavioural processes that incorporate a sense of imagination and hope, while risky, could increase the likelihood of innovation and successful responses to evolutionary challenges." The pace and substantive impact of changes in behaviour, bodies, and life histories in human ancestors and early humans themselves are demonstrated in the brief review of human evolution. This, combined with recent work studying the role of social networks, compassion and meaning, the connection between stone tool manufacturing and ritual, the early appearance of "art" and symbol in the archaeological record, and the ongoing assertion that humans are indeed a symbolic species provides, according to Fuentes (2014a:251), an evidentiary context in which we can see the emergence of this semiotic, temporally complex, and imaginative reality for the human genus.

## 2.4 CONCLUSION

In this chapter I explored the evolution of the human capacity for imagination. In my exploration I focused on two key researchers on this topic, Steven Mithen and Agustín Fuentes. Decision making is one aspect of the human imagination which is an integral part of our day-to-day living. We continuously have to make decisions and we do so by imagining future scenarios from the choices that are available. It is our creative imagination, however, that enabled us not only to survive, but to flourish. Both Fuentes

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[30] Exaptation is a term used in evolutionary biology to describe a trait that has been co-opted for a use other than the one for which natural selection has built it. According to Wynne Parry, in the article "Exaptation, how evolution uses what's available" (2013), it is a relatively new term, proposed by Stephen Jay Gould and Elisabeth Vrba in 1982 to make the point that a trait's current use does not necessarily explain its historical origin. They proposed exaptation as a counterpart to the concept of adaptation.

and Mithen agree that the human capacity to imagine and be creative is what made our species successful. Fuentes and Mithen also agree that the capacity for imagination enabled the development of other capacities, such as art and religion.

As is evident in the archaeological and fossil records, our hominin ancestors and relatives did indeed apply imaginative abilities to their everyday living, especially with regards to getting food and avoiding being eaten by predators. The creative imagination, however, is what both Fuentes and Mithen regard as distinctive to our specie, *Homo sapiens sapiens.* With reference to our capability to exercise a creative imagination, Mithen argues it is the product of a long evolutionary history which consists of seven key developments in our biological and cultural evolution: 1) the evolution of theory of mind capacities, 2) a distinctively human life history, 3) domain-specific intelligences, 4) the origin of music and language, 5) cognitive fluidity, 6) the extension of mind by material culture, and 7) the appearance of sedentary farming communities.

For Fuentes, the combination of a niche construction perspective with fossil and archaeological evidence, emphasising the role of complexity in human evolution, adds to our understanding of a completely human way of being in this world. He is of the opinion that the examination of the latter part of the Pleistocene is crucial in exploring the origin of imagination, because that is where we will find the first material evidence of imagination. This does not, however, imply that this is the exact starting point of the capacity for imagination. However, the simple sharp flakes and edged stones of the most primitive tool manufacturing are the first material evidence of our lineage's capacity to envision more than what is merely in front of us, and to create new form and function in the world. It all started with figuring out a better way to get food and, therefore, with imagining outcomes.

Our world is unbelievably complex and this is all due to the human capacity for imagination. But, as Fuentes (2017:286) argues, no aspect of the contemporary world is more rooted in our imaginative and hopeful capacities than faith and religious belief. Following Fuentes, having an imagination is a crucial part of the human niche, and this imagination is a basic element required for the development of a metaphysical perception of the world, which includes the supernatural. If this is indeed so, one could construct both evolutionary and religious perspectives as part of the explanations for

how or why humans engage in religious belief and practice. Through the course of human evolution, we have developed a niche where the imagination and symbol became key factors of our human ecology. Perhaps religious experience or awareness is a dominant consequence of the human niche, or the way human beings "are" in the world.

It is exactly this point, our capacity for religious awareness that I attempt to explore in the next chapter. In the execution of this task, I will continue with my conversation with Fuentes, but at the same time broaden it by engaging with two other prominent scholars in this field, namely Wentzel Van Huyssteen and Johnathan Z. Smith.

# CHAPTER 3

# SYMBOLIC THOUGHT AND RELIGIOUS AWARENESS

## 3.1 INTRODUCTION

Religion is a profound aspect of the human experience. There are currently 5.8 billion people who are identified as religiously affiliated around the globe (Fuentes 2017a:193). This represents 83 percent of the world's population, which is about 7 billion people. Religion is woven into the societies in which all humans live, and religious experience of some sort or another forms part of the daily activity of most people. While humans across the globe act religiously, there is necessarily no agreement about doctrine, deities, practice, etc. In his recent acclaimed Gifford Lecture Series, a series of six lectures under the title: *Why We Believe: evolution, making meaning, and the development of human natures* (2018),[31] Agustín Fuentes focused on, amongst other things, the human niche and our capacity for belief. In his fifth lecture Fuentes (2018b:2:15) starts his discussion by stating that: "Religion as we know it, is very very recent, and we are not." Fuentes (2018b:2:24ff) continues to explain that contemporary formal religions and religious institutions have substantial roots stretching back no more than 4,000 to 8,000 years. This is a simple blink of an eye in the sum total of the human history. The distinctively human lineage is more than 2 million years old, and for more than 80% of that history we have very little material evidence of anything like the transcendent experience and the acknowledgement of the supernatural, both critical to religion, and we don't see them as prominent in the lives of our ancestors (Fuentes 2018b:2:55). Nevertheless, today deep faith and devotion to religious beliefs are central in the lives of billions of humans, and the capacity to be religious is found in all of humanity, therefore, it must have some form of evolutionary relevance (Fuentes 2018b:3:10). Can this capacity be understood as a central feature of human evolution? Fuentes (2018b:3:47ff), in line with

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[31] The audio version of Fuentes's Gifford Lecture Series (2018) was used.

anthropologist Roy Rappaport, sociologist Robert Bellah, and others, proposes that there are multiple lines of evidence suggesting that the capacity to be religious emerges in concordance with the capacity for belief over our evolutionary history, and that religions as we now recognize them only very recently became a fixture of human identity. Therefore, for humans having religious beliefs, or something like them, is much older than formal religious systems structures and institutions. For the most part of the human history as a genus and as a species (*Homo sapiens*) the world of organized religion was very different or even absent. Religion, just like so many other parts of the distinctive human existence, evolved over time, a process investigated by Fuentes (2017a:195). Even though religion is a centrally important aspect of being human today, there is no robust evidence that this was the case for earlier members of the genus Homo. Therefore, according to Fuentes (2014a: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."

In a discussion on the emergence of religion, Fuentes (2015c:171) emphasizes the substantive and transformative impact of theologian Wentzel Van Huyssteen not only on theology but also on anthropology.[32] For many anthropologists, Fuentes (2015c:171) argues, the perspective that Van Huyssteen applies when attempting to understand and articulate the human tendency to make meaning of the world, to make space into place, and to view the world around us as more than the material of which it is made, is appealing and innovative. Fuentes (2015c:171) argues that most anthropologists are neither explicitly humanist, nor are they theologians, and most are not adherents to a particular faith practice. However, there is something in what Van Huyssteen offers that enables them as social scientists to gain from, and join in, a mutually enriching intellectual journey.

This view of Fuentes (2015c:171) is exemplified by a particular quote from Van Huyssteen that requests anthropologists not merely to share a theological worldview, but rather to be enriched by it and join together as partners in the pursuit of

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[32] Fuentes mentions he is equally grateful to the theologian and scientist Celia Deane-Drummond for providing the same kind of context to join and the explicit practice of such experience that has arisen from their collaborative research projects on this very subject.

understanding. In his ground-breaking published Gifford Lectures, Van Huyssteen (2006:312) makes the following statement: "humans 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." For Fuentes (2015c:171) this quote does not only have implications in a particular theological context and perspective, but it is also equally enticing and meaningful to an anthropologist, as many of their goals overlap, especially when it comes to seeking understanding of the ubiquitous human tendency to believe, imagine, and hope. Fuentes (2015c:171) takes it one step further by arguing that in order to have a more comprehensive understanding of human evolution, anthropologists must have a deeper understanding of why and how humans have imagination, faith, and hope, and channel these through suites of rituals, a process and experience that many would call religion.

In search of the origin of religion and religious belief, many researchers have proposed that it is the result of adaptations generated through natural or cultural selection in order to help humans organize large groups and facilitate cooperation. Other scholars argue that religious belief is a by-product of human cognitive complexity and that being self-aware, and having theory of mind,[33] produces cognitive mechanisms that promote supernatural agency detections. However, Fuentes (2015c:172) suggests that the evolutionary answers to the question of the origin of a capacity to have religious belief might not lie wholly in religious beliefs or structures themselves. Rather, they are, at least partially, manifest in the way in which humans successfully negotiated the world during the terminal portion of the Pleistocene (the last 300 000 to 400 000 years). Fuentes (2015c:172), following amongst others Van Huyssteen, argues that a crucial prelude to having religion is the emergence of a human imagination and the embodiment of a quest for meaning as part and parcel of the distinctive human niche that has facilitated human flourishing as a species.

Van Huyssteen (2006:312) is of the opinion that the "naturalness" of religious awareness and the human quest for meaning can be explained by an evolutionary epistemological approach. Van Huyssteen (2006:75; see also Van Huyssteen 1998) argues that if the evolution of human cognition is taken seriously, it becomes clear that

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[33] Theory of mind is often considered as the core for the justification and motivation of religiosity.

even theological reflection is radically shaped by the ongoing influence of its traditions. It is consequently shaped by its social, historical, and cultural embeddedness, and also definitively shaped by the deeper biological roots of human rationality. For Van Huyssteen (2006:76) the very basic assumption of evolutionary epistemology is that humans, like all other living beings, have resulted from evolutionary processes and that, consequently, their mental capacities are constrained and shaped by the mechanisms of biological evolution. Evidently, Van Huyssteen (2006:76) asserts, if all human knowledge is in some or another sense shaped by its biological roots, then the study of evolution should be of extreme importance for understanding the phenomenon of human knowledge and for what we might want to define as the uniquely human aspect of this process. Already in 1998 Van Huyssteen had maintained that evolutionary epistemology might offer a postfoundationalist way out of the problem having to decide between foundationalist and nonfoundationalist approaches to human rationality.[34] Van Huyssteen (2006:77) mentions that the shift away from positivism, as well as all varieties of foundationalism, remains significant, especially in attempts to critically define human uniqueness.[35] Evolutionary epistemology further highlights the fallibilist nature of rational judgements and explains that there is progress in the growth of knowledge, but as emphasized by Van Huyssteen (2006:77), it does not assess such progress as an increase in accuracy of depiction or as an increase in the certainty of what is known. From this evolutionary epistemological perspective it is possible to view knowledge as an interactive relationship between an embodied knower and something that is known. Therefore one can now, in Van Huyssteen's (2006:77) opinion, cease to identify the knower with a subjective, mental, inner consciousness and the known with the rest of the outside "real" world.  For Van Huyssteen (2006:59) the process of evolution is revealed by evolutionary epistemology as a holistic, embodied belief-gaining process, a process that is shaped preconsciously in humans, too. All human beliefs, including religious beliefs, consequently have distant evolutionary origins and were established by mechanisms working reliably in the world of human ancestors, even though on a

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[34] Van Huyssteen made this argument in his publication, *Duet or Dual? Theology and Science in a Postmodern World*, in 1998.

[35] For Van Huyssteen the capacity to be religious forms an integral part of the discussion on human uniqueness.

broader cultural level human beliefs and convictions are not explained by biological origins (Van Huyssteen 2006:89). For Van Huyssteen (2006:93) a theological redescription of the implications of evolutionary epistemology for human rationality and culture can clearly reveal the possibility of exciting links between theology and the sciences.

In the search for the origins of religion, it is important to specifically determine what exactly is meant by "religion" and also to determine what evidence of it would look like in the archaeological and fossil record. As mentioned by Fuentes (2017a:196), churches, temples, icons, written records, and a vast assortment of art and symbols that point to specific religious practises, beliefs, and traditions are found in the past few thousand years. However, one question still remains: where and when did religion show up, and what does it come from? In answering this question I will mainly focus on the perspectives offered by Fuentes and Van Huyssteen. I will precede this discussion with a short description of how religion or "religious" can be defined. Human symbolic reality against the background of niche construction will be the next point of discussion. After that the evolution of religion in a context of niche construction will be the focus.

## 3.2 DEFINING "RELIGIOUS"?

Most human beings regularly behave as if there were a supernatural or transcendent reality, whether they believe in one or not (Fuentes 2017a:196). The classification of these people and their beliefs and practices is quite complicated. Superstitions are connected to the everyday lives of people around the world, and it is often displayed without any consideration of their origin or validity.[36] These actions and behaviour assume that some element of the supernatural or transcendent are involved, even if the assumption is subconscious. Fuentes (2017a:197) is of the opinion that the most important and ubiquitous aspect of this human investment in the transcendent is that of wishing and hope. The human ability to generate expectations of future outcomes

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[36] Examples of this kind of behaviour are, amongst others, the avoidance of the evil eye, knocking on wood, carrying lucky charms, believing certain things about specific animals and dates, and appropriate behaviour around the dead.

by using more than what is predictable based on a person's surroundings or experiences is reflected by hope and wishing.

Several species apply basic predictability in the decision to search for food, fighting, making up, having sex, or in the performing of just about any day-to-day task. However, as mentioned by Fuentes (2017a:197), that is all based on some material reality available to the individuals or experiences they have had – for example, knowledge of where fruit is or the size of an opponent, or an experience of fruit in a particular location in the past, or they were able to beat another individual in a fight before etc. The use of imagination is central in the "wishing" and "hope" that human beings apply. Wishing and hope are necessary to provide communities and individuals with a justification to undertake unpredictable or risky actions. Under normal conditions of predictability these actions could be interpreted as leading to danger, failure, or death (Fuentes 2017a:197). Risky or unpredictable actions are often seen in other animals; nonetheless, human beings regularly wish and hope for outcomes that seem beyond their capacities, and they strive to achieve these outcomes. This can be regarded as a regular part of human existence. Fuentes (2017a:198) argues that it is very likely that this aptitude to wish and hope preceded, and formed a baseline for, the capacity to be religious today.

Somewhere during the evolutionary history of humans they went from being transactional beings to being both transactional and transcendental. Human beings have interactions, rules, and roles that are based not only on strict experience and material reality. These rules and roles are created by their own communal and individual imaginations and applied in reality. The rituals humans perform and the expectations they have with regard to nations, genders, economic systems, and religions are all part of this package. According to Fuentes (2017a:198), this process (the shift from being only transactional to being both transactional and transcendental) is almost certainly tied to the emergence of what today is called "religion." Finding a physical record of religion in the deep past remains extremely difficult, if not impossible – mainly because there is uncertainty as to what exactly is being looked for. It is even difficult at present to develop a single definition that encompasses all known religions. In this discussion I will focus on two perspectives. The first is that of the scholar and historian of religion, Johnathan Z. Smith. Smith gives a broad overview of the history

of the terminology that is used to define religion. A second perspective, which is also highlighted by Fuentes, is presented of anthropologists Candace Alcorta and Richard Sosis.

3.2.1 Johnathan Z. Smith

In his article "Religion, Religions, Religious" (2004) Smith raises some tough questions about "religion." "Religion" is a widely used term that forms a big part of our cultural language and heritage. But what is it? What is religion? The same applies to the word "religions", the plural. What are religions? How do we know when we've found a religion? And then there's the adjective, "religious." How do we know when behaviour can be categorized as religious behaviour?

During the sixteenth century the use and understanding of the term 'religion' underwent major expansion. According to Smith (2004:179), this particular expansion raised, and continues to raise, important issues relevant for the study of religion today. For Smith (2004:179-180) four issues are especially important in any discussion regarding the use and understanding of the term 'religion'.

1) Firstly, 'religion' is not a native category. The term 'religion' is not a first-person term of self-characterization. Smith (2004:179) argues it is a category imposed from the outside, some form of "other," on some aspect of a native culture. It is the "other" who are exclusively responsible for the content of the term.

2) According to Smith (2004:179), there is an implicit universality in the use of the term, and it is noticeable in even its earliest formulations.

3) The characteristics of what Smith (2004:179) calls "the second-order, generic category 'religion'," are those characteristics that appear to be natural to the "other."

4) The final issue Smith (2004:180) raises is the notion of 'religion' as an anthropological rather than a theological category. 'Religion' describes human action and thought, most frequently in terms of norms of behaviour and belief.

Smith (2004:180), asserts that the term "religion" has had a long history, though much of it, prior to the sixteenth century, is quite irrelevant to contemporary usage. He mentions that the etymology of "religion" is uncertain, with three current possibilities that stems from the root *leig* which can meant "to bind," "to reread," or "to be careful"

(Smith 2004:180). The noun forms *religio/religiones,* and particularly the adjectival *religiosus* and the adverbial *religiose* were cultic terms that primarily referred to "the careful performance of ritual obligations," in both the Roman and early Christian Latin usage (Smith 2004:180). In the English adverbial construction "religiously" refers to designating a conscientious repetitive action. According to Smith (2004:180), the only distinctive Christian usage was the fifth-century extension of this cultic sense to the totality of an individual's life in monasticism: "religion," a life bound by monastic vows; "religious," a monk; "to enter religion," to join a monastery. In relation to ritual practice, 'religion', became an item in an inventory of cultural topics that could be presented on more than one term. Smith (2004:181) mentions 'religion' was either presented in terms of a particular people (a community or folk), or in a cross-cultural encyclopaedia under the heading of "ritual" or "religion."

This emphasis on ritual had certain consequences. Smith (2004:18) explains that the myths and beliefs of other folk could then simply be recorded as a quality of ancientness, and they did not raise any specific issues for thought. Ritual, however, generated projects of comparative and critical inquiries, especially when they appeared similar to Christian practice or illustrated categories of otherness such as "cannibalism" or "idolatry." On this matter Smith (2004:181) remarks:

> Similarity and difference, with respect to ritual, constituted a puzzle that required explanation by appeals to old patristic, apologetic charges of priestly deceit or to equally apologetic, patristic theories of accommodation, demonic plagiarism, diffusion, or degeneration. In the case of belief and myth, "their" words were primary; with ritual, "our" account superseded theirs.

This essentially Catholic understanding of 'religion' closely resembling with ritual changed during the eighteenth century. Smith (2004:181) gives two examples in emphasizing this change. In the *Dictionary of the English Language* (1775), Samuel Johnson, defined "religion" as "virtue, as founded upon reverence of God, and Expectations of future rewards and punishments." The second example is the first edition of the *Encyclopaedia Britannica* (1771) with "Religion, or Theology" as the heading of the entry. The following description is offered in the opening paragraph: "To know God, and to render him a reasonable service, are the two principal objects of religion .... Man appears to be formed to adore, but not to comprehend, the Supreme

Being." Terms such as "reverence," "service," "adore," and "worship" became included in the attempts at defining "religion." For Smith (2004:181) these terms do not have such an emphasis on ritual, and seem more to denote a certain state of mind. This transition began with Reformation figures such as Zwingli and Calvin, who understood "religion" primarily as "piety" (Smith 2004:182). With the shift to belief as the defining characteristic of 'religion' a multitude of interrelated questions about truth and credibility were raised. According to Smith (2004:182), these issues were intensified by the conflicting tendencies of the various Protestantisms, with their rival claims to authority, and the growing awareness of the existence of the quantity of articulate, non-Christian traditions. Over time questions of the plural *religions* (both Christian and non-Christian) were raised, which forced a new interest in the singular, generic *religion* (Smith 2004:182).

During the late seventeenth and the eighteenth century debates on "natural religion" arose.  As mentioned by Smith (2004:183), the notion of natural religion was used in the literature to discern at least eleven considerably different notions of religion. On the one hand, the essentially anthropological project of describing natural religion honoured similarity and this was often expressed by claims of innateness or universality, and on the other hand, explanations of difference were mainly historical, depending on whether they stressed progressive or degenerative processes (Smith 2004:183). This double enterprise, as Smith (2004:182) describes it, had the effect of distorting the divisions between questions of truth and questions of origins with regard to religion. "Religion" was thereafter transported from a supernatural to a natural history, and from a theological to an anthropological category.

For Smith (2004:184) a key mark of this transportation is David Hume's essay *The Natural History of Religion*, which was written between 1749 and 1751 and first published in Hume's collection of *Four Dissertations* (1757). What should concern us most about Hume's exposition, according to Smith (2004:185), is the argument that polytheism or idolatry was the first and most ancient religion of mankind. Furthermore, it promotes studying the origins of religion in the ordinary affections of human life. Human beings, filled with anxiety, search for the unknown causes that become the constant object of their hope and fear. Hope and fear, which are the primary human experiences, become a secondary religious interpretation when these unknown

causes are personified through the imagination (Smith 2004:185). The issue of the adjectival form "religious" is raised here. What sort of primary human experience or activity is modified by the notion of "religious?" For Smith (2004:185) in this context, the 'religious', which is the unknown that the scholar is seeking to classify and explain, becomes an aspect of some other human phenomenon, the known. The goal of the inquiry into the meaning and nature of "religious" was to make religion comprehensible by detecting precisely where it is situated within categories of common individual human capacities and faculties. Most often 'religious' was then defined with rationality, morality, and feeling.

According to Smith (2004:186), a whole different set of taxonomic questions was raised by the 'religions' and became an urgent matter by the nineteenth century. These questions were mainly concerned with the way several 'religions' may be classified and also whether there might be one generic 'religion' and the diverse 'religions' are merely subspecies of it. During this period, as Smith (2004:187) mentions, the most common form of classifying religions, evident in both native categories and in scholarly literature, is dualistic and can be reduced to notions of "theirs" and "ours" regardless of the differentiation that is employed. However, this dualistic categorization later gave raise to the conversion of the epistemological duality natural/supernatural into characterization of the object of belief and the placement of these two terms in a chronological relationship (Smith 2004:188). The nineteenth-century anthropological approaches focused primarily on increasing the number of "natural" religious categories, especially for "primitive" peoples. These theories were often mistermed as "evolutionary" and conceded no historical dimensions to those being classified. According to Smith (2004:188), they rather froze each ethnic unit at a particular "stage of development" of the totality of human religious thought and activity. On the contrary, the religions which could be designated as "spiritual," also considered as "high religions," required a different technique for their division that recognized history. For Smith (2004:189), one of the most enduring devices in defining and categorizing "religions" was the invention of the taxon "world" or "universal religions." This division appeared to recognize both history and geography and was introduced through the work of Cornelius Petrus Tiele's, *Outline of the History of Religion to the Spread of*

*Universal Religions* (1876). In this categorization distinctions are drawn between "natural religions" and "ethical religions".[37]

During the late twentieth century, just as in the eighteenth century, issues attending the religions forced the definitional question of 'religion'. Two definitions, for Smith (2004:192), command widespread scholarly acknowledgement. One definition is essentially theological and the other anthropological. Firstly Smith (2004:192) refers to a formulation of religion by Paul Tillich.[38] Tillich (1959:7-9) argued that:

> Religion, in the largest and most basic sense of the word, is ultimate concern ... manifest in the moral sphere as the unconditional seriousness of moral demand... in the realm of knowledge as the passionate longing for ultimate reality ... in the aesthetic function of the human spirit as the infinite desire to express ultimate meaning. [Religion is not a] special function of man's spiritual life, but the dimension of depth in all its functions.

According to Smith (2004:193), this is not as open-ended and generous a definition as might seem to be implied. He argues that there are inadequate, insufficient, and false convictions of "ultimacy." This formulation is a definition of the "religious" as a dimension (in his formulation, the ultimate, unconditioned aspect) of human existence. For Smith (2004:193), if the theological criteria were to be removed from Tillich's formulation, it becomes difficult to distinguish religion from any other ideological category. In this context, Smith (2004:193) refers to Ninian Smart (1983), who suggests that religion should be understood as a "worldview," which represents a "system of belief which, through symbols and actions mobilizes the feelings and wills of human beings."

Smith (2004:192) mentions a formulation by Melford E. Spiro (1996), which is the anthropological definition of religion that has gained widespread approval amid scholars of religion, who both share and reject its functionalist frame: "an institution consisting of culturally patterned interaction with culturally postulated superhuman

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[37] See Smith (2004:189-192) for a more comprehensive explanation and other alternative modes of classification that arose from Tiele's perspective.

[38] Paul Johannes Tillich (August 20, 1886 – October 22, 1965) was a German-American Christian existentialist philosopher and Lutheran Protestant theologian who is widely regarded as one of the most influential theologians of the twentieth century.

beings." Required by this definition is an acceptance of a broad theory of cultural creation. This is evident by the phrases "culturally patterned" and "culturally postulated." According to Smith (2004:192), this places human cultural activities or institutions as the highest genus and religion as the subordinate taxon.

For Smith (2004:194) 'religion' is not a native term. The term 'religion' is created by scholars mostly for their intellectual purposes and therefore the term is theirs to define. 'Religion', according to Smith (1998:290-291), is one way that human beings organize and make meaning in this world. 'Religion' is, as Smith (2004:194) argues, a "second-order, generic concept that plays the same role in establishing a disciplinary horizon that a concept such as 'language' plays in linguistics or 'culture' plays in anthropology." Therefore Smith (2004:194) asserts that there can be no disciplined study of 'religion' without such a horizon.

Although very valuable, the question should be asked whether such an explanation of religion, as presented by Smith, is viable. Religion is a profound part of being a human being. I am of the opinion that the capacity to be religious, just as any other human capacity, cannot be studied without the insights of evolutionary theories. In order to conduct a responsible study of religion, it is vital to include evolutionary perspectives.

3.2.2 Candace Alcorta and Richard Sosis

In the attempt to define "religion" Fuentes (2017a:316) refers to the work of anthropologists Candace Alcorta and Richard Sosis. Alcorta and Sosis developed a list of four key patterns that appear in most, if not all, practices-and-beliefs sets that are usually called religion. In developing this list Alcorta and Sosis draw heavily on previous sociological and anthropological work focused on religion.[39] Their paper, *Ritual, Emotion, and Sacred Symbols the Evolution of Religion as an Adaptive Complex* (2005:323-359), reflects on religion in relation to four recurrent patterns. These four key patterns will be briefly discussed.

1) *Belief systems incorporating supernatural agents and counterintuitive concepts.* Fuentes (2017a:199) mentions that belief in "supernatural" agents

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[39] Especially the work of Emile Durkheim, Mircea Eliade, Mary Douglas, Bronislaw Malinowski, Victor Turner, Edward Taylor, and Roy Rappaport.

means that human beings actively perceive transcendent things, forces, and beings that exist beyond the realm of normally perceivable reality, and that these forces or beings are relevant to human life. The belief is that they can potentially affect humans and the natural world in which humans exist. According to Alcorta and Sosis (2005:326), the belief in supernatural agents also creates the possibility of "counterintuitive concepts" such as talking animals, virgin births, bleeding statues, resurrections, and the phenomena that are usually called "miracles."

2) *Communal participation in religious ritual.* Ritualized behaviour is often performed by various animal species. Even though human religious ritual follows some of the same structural patterns they differ in two main ways. Firstly, human rituals rely on symbols, and secondly, the rituals themselves serve to emphasise or increase the effect of the belief in supernatural agents (Alcorta & Sosis 2005:332). The reliance on symbol does, according to Fuentes (2017a:199), mean that the central items in a religious ritual are not things that, by themselves and out of context, have any meaning. For example, the word "God" has a very specific and central meaning to Christians, just as the word "Allah" has for Muslims. But the important point made by Fuentes (2017a:199) is that this capacity to create symbols and to have them enable connections to the transcendent or supernatural is a distinctively human creative skill.

3) *Separation of the Sacred and the Profane.* Alcorta and Sosis (2005:332) with reference to Douglas (1966), Durkheim (1969), Eliade (1959) and Rappaport (1999) mention that religious ritual is universally applied to define the sacred and to separate it from the profane or secular. As noted by the anthropologist Roy Rappaport (1999), ritual does not merely identify that which is sacred; it creates the sacred. The example of holy water is used by Alcorta and Sosis (2005:332) to describe this. When a priest blesses water, which is a symbolic ritual, it is transformed by that ritual and becomes a new entity, and it is imbued with a connection to, or even embodiment of, the supernatural. It becomes sacred. Regular water, secular or profane, has a fixed chemical composition and is used for, amongst other things, drinking, washing etc. It is "natural" and secular. Symbolic meaning and transcendent powers separate holy water as an entity from secular water. Fuentes (2017a:200) suggests that religious behaviour involves connection between humans and the supernatural, and that

can only work if there is an ability to discern, at least in some ways, what is sacred and what secular.

4) *Adolescence as a preferred developmental period for religious transmission.* Finally Alcorta and Sosis (2005:340) note that all knowledge regarding the religious system and the behaviour, patterns, and beliefs associated with it has to be learned. They therefore argue that adolescence is the main phase of life in which this teaching and learning takes place.

Fuentes (2017a:201) refers to a forthcoming publication by Thomas Tweed in which he argues that religions label and transform the way that humans experience emotions and other aspects of life. At the heart of most religions is some form of "transformative experience." Such experiences provide members with the language and framework of meaning necessary to help explain the way the world is perceived and also the way it should be. If this is the case, then, according to Fuentes (2017a:201), the aptitude for religious thought and behaviour over the course of human evolution has major implications for the way that human beings develop their sense of identity and for the way that individuals and communities understand who they are. Today religious communities use symbolic items, paired with ritual sounds and gestures, in order to build a shared picture of how they perceive and experience the world.

In his fifth lecture in the Gifford Lecture Series Fuentes (2018b:06:04) makes two central terminological clarifications between the terms "religious" and "religion," which I think is important in any discussion on the emergence of our religious capacities. Fuentes (2018b:06:08ff) mentions that with by the term "religious," which he borrowed directly from the Anthropologist Clifford Geertz, he means:

> The use of one's capacity for belief in the context of becoming with particular perceptual, experiential and agential practices, involving the transcendent, that act to establish powerful, persuasive, and long-lasting moods and motivations that may be but are not necessarily tied to specific formal doctrines, practices, texts, or institutions.

Borrowing from Émile Durkheim, Fuentes (2018b:06:38), explains the meaning of the term "religion" as follows: "the formal coalition of religious beliefs and practices (rituals) and the material symbols and structured institutions that unite them into a single community via specific theological doctrine and ritual." Now, Fuentes (2018b:07:10ff)

is clear about the fact that his distinction between the two terms might not be satisfactory to all (especially for those coming from different disciplines who are inclined to ask slightly different questions), but he went on to mention that this is a "necessary methodological practice for an effective evolutionary analysis." In the light of the discussion in this section, however, I do feel it necessary to also provide his previous, more comprehensive characterization of religion (Fuentes 2017a:201):

> Religions are characterized by a belief in supernatural agents and counterintuitive concepts, involve symbolic ritual that helps develop a shared experience of the world, and cultivate a differentiation of the sacred and the profane, and much in religious systems is transmitted during childhood.

Direct evidence of such indescribable experience might seem an impossibility. However, Fuentes (2017a:201) argues that if symbolic ritual is critical to making and maintaining religious meaning, then the fossil and archaeological record can be explored in order to try and identify when material records of symbolic behaviour appear. This would be evidence that the basic material tools for religious experience, as well as the cognitive skills required to make them, exist in human beings. The very presence of symbolic materials in the archaeological record acts as a marker to declare that religious belief may have been present. According to Fuentes (2017a:202), at first it is necessary to have evidence of symbolic materials, and then evidence of ritual behaviour that incorporates symbolic items should be collected, which could be evidence that religious ritual was occurring. It is also viable to look for evidence of learning and teaching that focus on the young as setting up a system within which transmission of religious belief and behaviour could occur. Finally, Fuentes (2017a:202) mentions that it should be determined when and where any firm evidence of a split between sacred and secular can be observed in the evolutionary record of the genus *Homo*.

## 3.3 EVIDENCE OF SYMBOLIC BEHAVIOUR AND RELIGIOUS EXPERIENCE

Fuentes (2017a:202) worked with the biological anthropologist Marc Krissel to compile and analyse a database of all the published examples of items made or shaped by the

genus *Homo* that might be considered symbolic between the dates of 2 million and 40 000 years ago. The earliest items available date to around 300 000 to 500 000 years ago. Around 100 000 to 200 000 years ago items that are likely to be symbolic, i.e. shell and stone beads, ochre use, and engraved ones and stones, become more common. Fuentes (2017a:202) mentions that around 40 000 to 100 000 years ago these items became more diversified and very complex. Symbolic items become ubiquitous during the last 40 000 years of human history as is demonstrated by cave paintings and other graphic art, bone carvings, figurines, and a whole range of items that are undeniably symbolic. However, exactly what these items symbolized to the people who made them remains quite unclear (Fuentes 2017a:203).

Contexts within which these items could be reliably identified as possibly having religious meaning were only around 10 000 to 20 000 years ago. Therefore, it is very difficult to assess what these items were used for. Fuentes (2017a:203) provides one such example: there are some astonishing paintings dating back to almost 40 000 years ago, found in deep caves, completely dark and very hard and dangerous to access. In order to paint them one human or a group of humans had to intentionally enter this dark cave and overcome all the obstacles associated with doing so. Once they found the preferred spot, they had to spend a very long time cramped sixty feet underground whilst creating a painting that nobody could see unless they crawl down exactly the same dangerous path with some sort of light source. An argument for religious ritual can be made in this case and would in some ways even be convincing. As Fuentes (2017a:203) mentions, such elaborate activity, with all the challenges involved as well as the need for a group of people working together, suggests the likelihood that the images of geometric shapes, animals, and human handprints had deep symbolic meaning. Furthermore, the fact that most likely nobody besides the group who went on the expedition would ever see these things, also seems to provide good evidence that this action fits the main criteria for being something that is transcendent, and maybe even reflects an intentional religious activity. Taking all of this into account, however, there is still no way to demonstrate whether such an argument is correct or not.

These early symbolic or symbol-like items reveal that the capacity for symbolic and possibly religious thought and behaviour appears sporadically across the range of

populations of the genus *Homo* at least 300 000 to 500 000 years ago. Around 100 000 to 200 000 years ago the symbolic materials found are more frequent and complex, and during the last 100 000 years symbolic items become common in all human populations. Even though the presence of symbolic items does not declare that religion has emerged, it does reveal that human ancestors began to develop symbols and increasingly to use them for numerous purposes over the last 500 000 years (Fuentes (2017a:204). Today, such items are integral to religious practice and involved as part of religious experiences. It is therefore highly likely, according to Fuentes (2017a:204), that surely over the last 100 000 years religious capacities might be expected to develop into kinds of religious practices known today, possibly using the symbolic items visible in the archaeological record.

Another line of evidence is identified by Fuentes (2017a:204), namely the intense cooperation that characterized the human lineage. As the brief discussion on religion points out, an intensive kind of collaboration and communication needs to be performed in order to perform that which is called religion today. Supposing a group of early *Homo* underwent an experience that felt transcendent or 'out of the world' as they were used to experiencing it. This could have been a lunar eclipse, an earthquake, a blood moon, a flash flood, or an enormous wildfire. Fuentes (2017a:204) argues that coordinating agreement on what the meaning of a specific transformative experience was and sharing that sensation with other members and then celebrating it as a group would require a particular level of shared intentionality not found in other animals. This shared intentionality refers to them all consciously agreeing on the same cognitive and emotional interpretation of the experience, a capacity that has very deep roots in the human lineage. Around a million years ago our human ancestors were coordinating on stone tool-making, power scavenging, and cooperative child-rearing. All of these processes involve considerable group coordination, a lot of flexibility in learning, and a certain kind of teaching. According to Fuentes (2017a:204), these processes imply a rather complex level of information sharing, but not language as known today. Many groups of *Homo* were using fire, coordinating hunts, and making more complex stone and wooden tools by 300 000 to 500 000 years ago. These groups most likely also had something closer to language to help with the exchange of information. It is this increasing diversification and use of sounds as part of the communication system that many researchers suggest might be a critical point in the

development of the capacity for symbolic behaviour (Fuentes 2017a:205). By this time period a convergence of increasing cooperation and coordination, improved ability to convey information and sensation, as well the purposeful use of fire emerges. Human ancestors began to communicate about the ideas behind the day-to-day facts of making a living. It is not surprising, as Fuentes (2017a:205) states, that at this point in time the earliest symbol-like items appear, which points to our human ancestors beginning to experiment with making meaning. After the process of making meaning had begun, it was not a big step to devise a "figurative language," known as a system of sounds and gestures that enables the emergence of metaphor (Fuentes 2017a:205). Human ancestors were developing the capacity to share what was in their minds, to imagine and to share their imaginings through the use of gestures and sounds. Consequently, they were developing the capacity to tell stories, a central facet of all human lives. This capacity is, according to Fuentes (2017a:205), the last main item necessary for the emergence of religion.

The notion of sacred versus the secular, a key aspect of religion as discussed above, however, emerged only very recently in the evolutionary record. No absolute evidence of any division between the sacred and the secular is evident throughout the history of the genus *Homo*. Fuentes (2017a:205), mentions that evidence of burials may be one place where this division of sacred and secular could be found. However, the patterns of the early burials are inconsistent and are often in the living spaces of the communities who buried the dead. The two earliest possible burials consists of bodies being deposited in caverns that is very hard to reach. The first site is at Sima de Los Huesos in Spain around 400 000 years ago and the other is associated with the *Homo Naledi* find in South Africa from maybe 1 or 2 million years ago (Fuentes 2017a:206). There are no symbolic items associated with the *Homo Naledi* site, but the one in Spain has one finely carved stone tool that has never been used associated with the burial. Even though this sounds like a tantalizing possibility, Fuentes (2017a:206) states that these two are outliers and there is very little evidence of intentional burials until much more recently.[40] Intentional burials are found between 50 000 and 150 000

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[40] The findings of possible deliberate placement of bodies of *Homo Naledi* has lead to widely diverse reactions. The various opinions on how to value the finding and subsequently on its significance are strongly divided. Some of the reactions are leaning towards the deliberate placing of the bodies in the

years ago at sites in Croatia, Israel, France, and Iraq, in which the dead were interned in pits or depressions, often in the same spaces where the communities were living. These burials also often had items such as shells, stones and antlers placed over parts of their bodies. These are only few examples and it is not until the last 10 000 to 14 000 years that burials are found regularly at archaeological sites and sometimes clustered separate from living spaces, like the first graveyards (Fuentes 2017a:206).

Direct evidence that items are being used in symbolic ways that reflect religious ritual or function is seen by the time early villages and towns are evident around 8000 to 14 000 years ago. There are strong indications of symbolic spaces, like carvings, bulls' heads, and forms of art assembled in shrines and altars at early town sites like Çatalhöyük in what is today Turkey (Fuentes 2017a:206).[41] These indicate some form of acknowledgement of the transcendent or supernatural. Once again the majority of these shrines are in living spaces, which is demonstrated by the archaeological evidence of daily and secular activities happening in and around them. Therefore, in these early cases the sacred and the secular were not spatially differentiated. It is, however, almost impossible to identify a split between sacred and secular in the archaeological record if the differentiation did not need to be spatial. It might also be that this characteristic is common in some contemporary religions, but not necessarily a requirement for religious belief or practice. Fuentes (2017a:206) argues that in many small-scale religions practised until recent times, instead of the physical form or location of an item or place, the differentiation between secular and sacred is based on shared meaning and/or the potential for transformative experience and interpretation.

As evident in the short discussion regarding indications in the archaeological record of religion, the material evidence of prominent transcendental experiences and recognition of the supernatural in the lives of human ancestors is very scarce in the first three quarters of human evolutionary history. However, over the last quarter of the history of *Homo*, increasing evidence of symbolic meaning as well as the potential

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cave by members of the same species, like a form of ritual behaviour, while others regard it as a big mystery. For a brief review of recent literature on the finds, see Veldsman (2016).

[41] See also Van Huyssteen's discussion on religion and the finds at Çatalhöyük, in *The Historical Self: Memory and Religion at Çatalhöyük,* (2014b:109-133).

material evidence of transcendental experiences in the lives of human ancestors is noticed. Therefore, as Fuentes (2017a:207) points out, the capacity to be religious emerged over the course of human evolutionary history, and religion eventually became a fixture of human identity. The question still remains as to why the capacity to be religious developed. In pursuit of the answer to this question, the emergence of human symbolic reality in a context of niche construction will be studied.

## 3.4 THE HUMAN IMAGINATION, SYMBOLIC REALITY, AND NICHE CONSTRUCTION

As mentioned in the introduction, in the present day there are numerous approaches to explain the presence and patterns of symbolic and religious behaviour, beliefs, and institutions through the use of evolutionary processes. Fuentes (2015a:1), with reference to Johnson and Bering (2006) and Norenzayan (2013), states that various psychologists and biologists have suggested that religion and religious belief originated as adaptations generated through natural or cultural selection in order to assist humans in organizing large groups and facilitating cooperation. Another popular approach is that of the interdisciplinary research programme known as the *evolutionary cognitive science of religion* (ECSR) or the *cognitive science of religion* (CSR). These fields primarily consist of scholars in cognitive psychology and religious studies, neuroscience, philosophy of mind, and cognitive and social anthropology. Scholars in the fields of the CSR and ECSR postulate that structures and patterns of religious belief are constrained by the ordinary functioning of the cognitive system. According to Fuentes (2015a:2), the practitioners of the CSR and ECSR primarily argue that the evolutionary developed human cognitive complex[42] produces processes or mechanisms that promote supernatural agency detection, which refers to "the construction of mental impressions that there are supernatural agents at play underlying many observed or perceived phenomena".[43] Van Huyssteen (2014a:133) mentions that the cognitive science of religion is without any uncertainty the leading

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[42] The evolved human cognitive complex refers to, amongst other things, having a theory of mind and being self-aware (Fuentes 2015a:2).

[43] The views of the CSR and ECSR, as well as criticism of them, is broadly discussed in the publication by Fraser Watts & Léon Turner: *Evolution, Religion, & Cognitive Science: Critical & Constructive Essays* (2014).

voice in contemporary discussions about the origins and evolution of religion. Fuentes (2015a:1) states that there are also perspectives that suggest that the evolution and emergence of religious belief and institutions are more complicated than the abovementioned and not necessarily best explained as an adaptation produced by natural selection. According to Turner (2014:9), three broad categories of criticisms of CSR and ECSR can be discerned. The first category stresses technical difficulties with the psychological methods and models that underpin CSR and ECSR. Another group has addressed apparent methodological problems, and expressed the need for a broader, profounder empirical study of the cognitive foundations of religious belief and practices, specifically the role played by affective and other bodily processes. Finally, the third category of critics has questioned the information-processing model of mind the CSR and ECSR typically employs as well as its modular accounts of cognitive architecture.[44] As stated by Fuentes (2015a:2), the niche construction approach to the evolution of religion fits into this final cluster and therefore does not strive to explain religion as the result of a specific targeted history of selection or an adaptive unit. Scholars adopting this perspective rather see religion as one component of the human niche.

The niche construction perspective on the evolution of religion starts with the prospect that responds to the question of the origin of and capability of having religious belief do not lie solely in the religious beliefs or structures themselves. In order to understand the appearance of religion in human evolutionary history Fuentes (2015a:2) asserts that we should rather:

> look for the antecedents to the capacity for fully formed religious behaviour that, at least partially, manifest themselves in the way in which humans successfully constructed and were shaped by various niches during the terminal portion of the Pleistocene epoch (the last 300,000–400,000 years).

The emergence of a human imagination and the embodiment of a quest for meaning is, according to the niche construction perspective, expected to be an essential prelude to having religion. This embodiment of a quest for meaning and the human

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[44] See Watts & Turner (2014) for a more in-depth discussion of the criticism of the CSR and ECSR.

imagination is seen as part and parcel of the distinctive human niche that has facilitated human flourishing as a species (Fuentes 2015a:2).

During the last few hundred thousand years of the Pleistocene the involvement of a range of material items that reflect both symbolic and aesthetic perceptions or actions by the early *Homo sapiens* arose in the human niche (Fuentes 2015a:2). A capability for symbol creation and use are reflected by this specific development in the human niche. The capacity for symbol creation and use precedes or underlies or forms a basis for the current human ability to develop a metaphysical orientation to the world. According to Fuentes (2015a:3), it is this capacity of metaphysical orientation to the world that, in turn, facilitated the emergence of structured religious beliefs.

Fuentes (2015a:3; 2017a:198) refers to an argument by the British anthropologist Maurice Bloch (2008) that this transformation can be detected in the lineage of the *Homo* sapiens. A definite movement from a group of beings engaging in transactional sociality,[45] even if in a very complex way, to the kind of beings that includes a set of transcendental relationships in their type of social interactions can be seen. Bloch's (2008:2055) argument is that religious-like phenomena are in general an inseparable part of a major adaptation unique to modern humans. This neurological adaptation is, according to Bloch (2008:2056), the capacity to imagine other worlds and is the very foundation of the sociality of modern human society. It is most probably only around the time of the Upper Palaeolithic revolution[46] that this neurological adaptation occurred fully developed. Put differently, human beings are at the same time both transcendental and transactional beings. According to Fuentes (2015a:3), this human reality results in a landscape of meaning and an associated imagination that acts as a system that assists a range of additional symbolic and meaning-laden aspects of

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[45] Most animals engage in transactional sociality and many primates also do so in a very complex manner (Bloch 2008:2056).

[46] Bar-Yosef (2007:3) states that the Upper Palaeolithic Revolution, occasionally called 'the Creative Explosion', is seen as the period when the forefathers of modern forager societies emerged. Similarly to the Industrial and Neolithic Revolutions, it represents a short time span when numerous inventions appeared and cultural changes occurred. The inventions were in the domain of technology, that is, shaping of new stone tool forms, long-distance exchange of raw materials, the use of bone, antler and ivory as well as rare minerals for the production of domestic and ritual objects.

human behaviour and experience that are the main components of human beings' current ways of being in the world.

The emergence of religious capacities in a niche construction context calls for a particular approach. This approach needs to go beyond explaining human bodies and ecologies and facilitate modelling an evolving system that transfers human ancestors from beings who are characterized exclusively by transactional interactions to beings who are typified by transcendent and transactional ones. According to Fuentes (2015a:3), an explanation of this process must include the capacity for imagination and a landscape of perceptual reality in which everything, material or not, is infused with multifaceted meaning. It is this human ability to deploy multiple and diverse modes of responses[47] to evolutionary pressures and their associated influence on evolutionary landscapes that assists the emergence of the aptly named "sapiens" by c. 200 000-100 000 years ago. Furthermore, this ability lays the basis for the development of the structured religious beliefs and institutions that exist in the present day.

According to Fuentes (2015a:5), increasing evidence reveals that significant cognitive flexibility in response to ecological and social challenges became common in the human lineage from at least 200 000 to 300 000 years preceding the first appearance of modern humans (c. 200 000 years ago). It is further argued that it was this particular cognitive and behavioural elasticity combined with progressively essential modes of social cooperation and coordination that enabled human beings to develop their modern ability for extensive shared intentionality, meta-coordination and language. As evident from the discussion on niche construction in Chapter 1, a few basic assertions can be made that would create a helpful background against which a more comprehensive understanding of the origin of religion can be pursued. Firstly, niche construction is crucial in any evolutionary approach to understanding humans, and therefore ecological and social inheritance are significant. Secondly, substantial cooperation and coordination of action are central. Finally, perceptions of social and material contexts and the behaviour associated with those perceptions can have evolutionarily relevant impacts.

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[47] Both transactional and transcendental.

The world is permeated by indexical[48] and iconic[49] signs for most animals and even many proto-human relatives, as pointed out by Fuentes (2015a:5). These signs are components of the transactional patterns of social relationships. Humans, however, added a symbolic component to the semiotic landscape at some point in their lineage. Fuentes (2015a:6) mentions that the emergent properties of symbolic representation facilitates, for humans today, a system in which hope and imagination, and the symbols related to them, can maintain stability and meaning even in the absence of their objects of reference. In order to understand human consciousness and the capacity for metaphysical and eventually religious thought, one should recognize that the human way of being arises from the interactions of many elements, even though the human symbolic mode of existence is emergent. These elements are, amongst others, bodies, brains, perceptions, senses, other beings, experiences, etc., and in themselves these elements do not have the particular property of symbolic experience. According to Fuentes (2015a:6) as well as Deacon (1997), symbolic experience rather emerges from the interrelationships of the various components of the human niche. Human beings, both as communities and individuals, are embedded in a niche within which creation and navigation of symbolic landscapes is a permanent context of their cognitive ecology. The evolution, development, and inheritance patterns of humans are not merely physical, and the boundaries between genes, bodies, epigenetic systems, psychologies, ecologies, societies, and histories can be both dynamic and fluid (Fuentes 2015a:6). Furthermore meaning, perception, and experience are as central in human history[50] as are muscles, hormones, and bones. Therefore, the way human beings perceive the world to be can play a significant role in evolutionary processes.

Across diverse disciplines[51] various scholars, such as Deacon (2011), Fuentes (2015a), King (2007), and Van Huyssteen (2006), maintain that the distinctive reliance of humans on creation, their use of symbols, and the impact of this reliance on the development of imagination might have resulted in a substantive component of human evolutionary success. It is argued that the way humans act is influenced by their

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[48] The indexical signs are correlated with or otherwise affected by what they represent.

[49] Iconic signs refer to the sharing of a likeness with what they represent.

[50] At least over the last 200 000+ years.

[51] These disciplines are, amongst others, philosophy, psychology, theology, and anthropology.

perceptions of the world and that this constitutes a key factor in human evolutionary histories. A dynamic in which the material world (the physical environment) is never without semiotic (including symbolic) markings is created by the way in which symbols are generated, perceived and utilized by human structures, perceptions and behaviour (Fuentes 2015a:6). The human perception of the world structures the way that they interact with it, and therefore belief matters in an evolutionary sense.

As seen in the previous chapter, the human imagination – the capacity to develop concepts, ideas, and sensations that are not materially, temporally, or explicitly present in the immediate surroundings – is part of human perceptual and interactive reality. It is a substantive aspect of lived experience and evolutionarily relevant. Fuentes (2015a:6) states that with the emergence and increasing use of symbolic representation (as part of the developing human niche) over the last 200 000 – 400 000 years, the human niche and the landscape in which humans existed became reliant on socio-cognitive interpretation and the experiences of a particular human community.  Viewed in this context evolutionarily relevant actions are likely to be influenced by variable symbolic representations. In this regard Fuentes (2015a:6) is referring to perceptions deriving from the range of experiential and perceptual possibilities that are influenced and created by the human imagination. Against this background the evolution of religion will be discussed.

## 3.5 THE EVOLUTION OF RELIGION

Symbol and the imagination are central facets of the ecosystem within the niche developed by human beings. According to Fuentes (2015a:7), it is the interaction and mutual plasticity between organisms and their environment in niche construction that acts as a central process which affects the evolutionary pressures in shaping bodies, minds and landscapes. Within this framework the capacity to imagine can be regarded as a reaction to perceived, as well as material, symbolic pressures. The converting of those imaginings into material items or actions can become a crucial tool in evolutionarily relevant patterns of action. Having and deploying an imagination is perceived as an evolutionary benefit that results in the increasing use of the imaginative reaction to a diverse set of both ecological and social challenges. Fuentes (2015a:7) mentions that religious rituals, structures, and institutions are one way in which the imagination is deployed in human systems.

This statement does not entail arguing that the origin of religion fulfilled a particular trajectory of the human lineage or for any specific adaptive function of religiosity. Furthermore, it is not an argument that "religion" is what enabled the human species to become fully human or allowed them to survive while all other human-like lineages became extinct. With this argument Fuentes (2015a:7) assumes that in an evolutionary context neither religion nor religiosity can appear "full-blown." Similarly it can be safely assumed that any other core facet of the human niche and body cannot appear in its modern form without having a series of precursors. Hence, according to Fuentes (2015a:7), religious belief and practice as well as the deep history of the religious experience are not exclusively explained through contemporary practices of religion:

> In an evolutionary sense we do not seek the process of religious faith and practice itself (the current product), but rather we have to identify the kinds of structures, behaviours, cognitive processes, and even revelatory experiences (however a given discipline may define this term) that might enhance our understandings of the role that human symbol creation, use, and the human imagination can have in the initial appearances of religious experience, belief, ritual, and their associated institutions, in our archaeological past.

This approach by Fuentes (2015a:7) therefore offers a more open landscape to diverse points of inquiry about human religious experience. If the possession of an imagination is an essential part of the human niche, and this imagination is a basic element required for the development of a metaphysical perception of the world, both adaptive and revelatory perspectives could be constructed as part of the explanations for how or why human beings engage in religious practice and belief (Fuentes 2015a:7).

Within the adaptive explanations, this approach to viewing human niche construction and the emergence of religion provides room for arguments for the development of the functional structures (both behavioural and cognitive) that those scholars, arguing for religion as a functional adaptation, propose. Fuentes (2015a:8) mentions there is also resonance between an approach that engages with both niche construction and religion for the possibility of the notion of an "ensoulment" or some form of revelatory experience. This approach corresponds with the kind of perspectives proposed by

scientists and theologians seeking to connect faith and the divine with patterns in human evolution. For example, a significant expansion and reworking of the human niche is represented by the emergence and increasing use of symbolic representation in the human lineage over the last 200 000 to 400 000 years. It is argued by scientists like Whiten and Erdal (2012) and Fuentes (2015a) that this reflects the "full-blown" development of the distinctive human socio-cognitive niche and it is therefore a crucial moment in the appearance of what would be called the "modern" human in both a cognitive and morphological sense. Scientists tend to invoke a particular suite of evolutionary processes, as well as a form of increasing cognitive complexity, but to explain this process, Fuentes (2015a:8) argues, theologians could develop this in their own context. Fuentes (2015a:8) explains it is equally possible to conceptualize the transition to the human socio-cognitive niche as part of the process of revelation.[52] In this case the revelation of God enables human beings to develop a form of reflection and a metaphysical orientation that eventually leads to religious belief. The niche construction model can establish a baseline process within which both theological and scientific interpretations can coincide (Fuentes 2015a:8 & 2014).

Van Huyssteen (2006:93) argues that if human genes do not completely determine our culture and our rational abilities, then it might be reasonable to expect that human genes, cultures, and rational abilities may also not completely determine the enduring and pervasive need of humans for symbolic thought, metaphysics, and ultimately life-transforming religious faith. This statement certainly does not constitute an argument for the existence of God. Rather, it is an argument for the rationality of religious belief in terms of a nondeterministic theory of evolution by natural selection (Van Huyssteen 2006:94). This argument vindicates the naturalness of religion, the necessity, meaningfulness, and rationality of religious belief. All of this cannot merely be naively explained away by seeing it as "invented" earlier by the human species. For Van Huyssteen (2006:192), religious belief is one of the earliest special propensities or dispositions that is detectable in the archaeological record of modern humans. In this regard there is indeed a naturalness to religion or religious imagination that challenges any perspective that would want to view religion or religious imagination as esoteric,

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[52] This would be the case in some Christian traditions.

or as an isolated faculty of the human mind that developed later (Van Huyssteen 2006:192).

Van Huyssteen (2006:188) refers to the work of scientist Ian Tattersall, who incorporated Palaeolithic material in search for early signs of symbolic behaviour. Tattersall (1998:6), in his publication *Becoming Human: Evolution and Human Uniqueness,* studied mural work and rock art of our ancient human ancestors in the caves of south-west France in pursuit of analysing human uniqueness.  According to Tattersall (1998:6ff), the Cro-Magnon human ancestors exhibited a distinctly human need for symbolic expression of values and beliefs. Around 40 000 years ago a remarkable creative surge is evident in Europe. *Homo neanderthalensis*, who inhabited Europe at the time, were quite rapidly displaced by the first European *Homo sapiens*. These "new Europeans" are often known as Cro-Magnons and they arrived fully equipped with modern behaviours (Van Huyssteen 2006:89). Cro-Magnons were physically indistinguishable from living *Homo sapiens,* and the complexity of the available material evidence of their lives indicates that they were the intellectual equals of human beings (Tattersall 1998:6). The Cro-Magnons demonstrate for the first time evidence of elaborate and regular burial practises, as well as hints of ritual and belief (Van Huyssteen 2006:189). For Tattersall (1998:11) this represents the earliest and most compelling evidence for the existence of something like religious experience. A justification for this is that the burial of the dead with grave goods is widely accepted as an indication of belief in an after-life and the goods are included because of their usefulness to the deceased in the life to come. However, the aspect of Cro-Magnon life that is most interesting is the evidence of art and symbolic representation (Van Huyssteen 2006:189). Amongst these evidential items are the astounding art of the caves in south-western France, music, notational and musical instruments, and highly complex symbolic systems (Tattersall 1998:189). There is no means by which to determine what exactly these artistic productions represented to the people who made them. However, these early "art" forms reflected a perspective held by the Cro-Magnons on their particular place in the world and a body of mythology that explained that place. For Van Huyssteen (2006:204) this resonates closely with a central theme in Tattersall's work: "one of the major functions of religious belief has always been to explain the deep desire to deny the finality of death, and the curious reluctance of our species to accept the inevitable limitations of human experience." In this context it

should be recognized that Cro-Magnon art goes beyond mere representation and as such embodies a broadly religious system (Van Huyssteen 2006:204; Tattersall 1998:201).

From an evolutionary perspective, religion undoubtedly appears to be continuous with the most elementary forms of creative adaptation to the vast world around us. In this regard Van Huyssteen (2006:204) argues that one could suggest that institutional animal behaviour, such as ritualization, territoriality, play, and the unquestionable capacity for feelings of meaning and loss (death) may well be seen as "precursors of the human sense of sacred place and time, of ritual and myth, ecstasy and mysticism." It is in this sense that Van Huyssteen (2006:205) argues, in terms of evolutionary epistemology, for the naturalness of religion. In this broader sense of the word, religion, just like art, can be viewed as a radically human phenomenon. For Van Huyssteen (2006:205) this permits the assumption that the symbolic religious expressions of Upper Palaeolithic Europeans, of Southern African Stone Age San, of the classical religions of India and the Levant, and most of us modern humans stem from the same "panhuman consciousness."

From a more philosophical point of view, Van Huyssteen (2006:205) argues, a postfoundationalist challenge still remains to pursue more contextual, even if highly tentative, answers to what the prehistoric images in their different times and spaces might have meant. It remains a mystery. Therefore, however Upper Palaeolithic "art" is viewed, it is certainly much more than a single archaeological puzzle among many others. Van Huyssteen (2006:212) concludes that we are dealing with the significant expression of something that is typically human, something that sets humans apart from other animals, and even from their closest panhuman ancestors.

Van Huyssteen (2006:261) points out that some theologians have recently taken up the interdisciplinary discussion of the idea that religious imagination might not be an isolated faculty of rationality, but that the predisposition to religious belief and mystical or religious inclinations can be regarded as an essentially universal attribute of the human mind and human culture. For Van Huyssteen (2006:264) an interdisciplinary agreement can be reached that religious concepts and the religious imagination should be treated equally with all other kinds of human reflection. In this context the religious imagination should be viewed as an integral part of human cognition, not

separable from other human cognitive endeavours. Religious imagination can however, according to Van Huyssteen (2006:264), also not be treated as a generic given, and therefore it can only be discussed and evaluated contextually within the specific context of specific religions.  In Van Huyssteen's (2006:265) opinion, this ought to be the starting point for a discussion on this challenging interdisciplinary issue.

For Van Huyssteen (2006:268) the material culture of prehistoric imagery as depicted in the astonishing cave "art" in, for example, France and elsewhere, cannot only be viewed as the first large-scale evidence of the storage of symbolic information outside the human brain. It can also be seen that "the heights of all human imagination, the depths of depravity, moral awareness, and the sense for transcendence depend on the symbolic ability of humans to 'code the nonvisible' through abstract thought" (Van Huyssteen 2006:268). The need to create meaning, whether religious, ethical, philosophical, or aesthetic, is part of the mental "tool kit" that *Homo sapiens* has evolved on its long journey of physical and spiritual survival (Van Huyssteen 2006:268).

Some scientists, according to Van Huyssteen (2006:268), have helpfully called this tool kit "higher-order consciousness." The reason for this is that humans are conscious of being conscious, and we have developed a high degree of self-awareness and symbolic memory. For Van Huyssteen (2006:268) this means that humans are probably the only species that has a remarkable memory, and that can also use that memory to shape their own identities through mental images of past, present, and future events. And at the heart of this is the human capacity for language. Part of this significant tool kit is what Van Huyssteen (2006:268) calls the "naturalness of religious imagination", which refers to the neurological disposition or capacity for religious awareness and religious experience. Van Huyssteen (2006:269) remains aware of the limitations to these perspectives: "Ultimately the interdisciplinary dialogue with the sciences runs up against limitations: neither biology nor neuroscience can explain religion or religious experience adequately." For Van Huyssteen (2006:269),  "only the religious person, experiencing his or her faith within a highly specific cultural context, can interpret or identify an experience as religious, and that as such qualifies an experience as a religious experience." It is such an awareness of the limitations of

scientific explanations that highlights the methodological need for an interdisciplinary approach for the understanding and explanation of religion and religious experience.

In his sixth and final lecture Fuentes drew attention to articulating "how belief works" in the human niche. Consequently, Fuentes (2018c:14:13-16:43) explained five capacities for belief that developed in the human niche that are, furthermore, constitutive aspects of the human process of belief:

1) The developmental processes of the human body and brain evolved as a system that is always in concert with, and mutually co-constitutive of, the linguistic, socially mediated and constructed structures, institutions, and beliefs that make up key aspects of the human cultural niche. To paraphrase Tim Ingold, humans are constantly becoming.

2) Skills, the ways we use our bodies and minds, develop and are incorporated into the human organism through practice and training in a given environment. Skills are always simultaneously biological and cultural and are contingent on the capacities and constraints of the development of our bodies and minds and our relationships with one another and the cultural and material environments we are in. Belief is a prominent human skill.

3) Specifically, via neurobiology and the endocrine system, the human learns to orchestrate herself within a cultural context and a range of individual experiences. Cultural concepts and meanings, the elements of belief systems, become embodied neurobiologically, physiologically, cognitively, and experientially co-shaping our anatomy and behaviour, which in turn interfaces with, and potentially reshapes, the very cultural processes shaping it.

4) The shape of, and boundaries to, the human niche (the system in which we become) are not always material or physiologically perceptible because of the processes and structures of human culture combined with our particular neurobiological capacity for extensive detached mental representations (imaginings). Belief and belief systems themselves can act as elements in the

construction and modification of the structural parameters of the human niche, materially and perceptually.[53]

5) Finally, the human enhanced capacity for detached representations and the complexity and diversity of our cultural milieus enables humans to experience, create, and even develop skills in transcendental perceptions/awareness and to make these a core component of basic human functioning. Developing and deploying the capacity to believe, including the possibility of transcendent experience, is a central aspect of becoming human.

So, for Fuentes (2018c:16:45ff) inherent in this whole notion of how belief works is the recognition that cultural constructs, including belief systems, are a specific conviction. A commitment in a given cultural context that is widely shared among members of that cultural group and are consequently part of their perceptual and physiological experience as well as constitutive of their social ecology in which they exist. Therefore, specific beliefs by specific peoples are tangled in human developmental processes and interfaces between the development of our bodies, minds, and society. Cultural constructs are real for those who hold them and accordingly matter materially and metaphysically. For humans, according to Fuentes (2018c:17:58), what is and what should be are critical components of every human belief system, and are to a great extent both contextualized and contingent on where and how we develop, and are imbedded in who we are and how we become. Therefore, an openness to revelation and discovery, however it is experienced, is a core part of the human niche, and essential to aspects of evolutionary processes.

## 3.6 CONCLUSION

The study of the emergence of religion once again emphasises the complexity that exists in offering one single definition for religion, as is evident in the discussions of Smith, and of Alcorta and Sosis.  Smith claims that religion is a way that humans organize and make meaning of this world. Even though Smith's explanation of religion

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[53] On this notion Fuentes (2018c16:00 – 16:15) re-emphasizes that he is making the argument – which is well supported by the cognitive neurobiological, and archaeological anthropological literature – that belief and belief systems are evolutionarily relevant in human beings.

is very valuable, one should still ask if such an explanation is viable. Alcorta and Sosis offer a list of four significant patterns that appear in most, if not all, practices-and-beliefs sets that are usually termed religion: 1) Belief systems incorporating supernatural agents and counterintuitive concepts, 2) Communal participation in religious ritual, 3) Separation of the Sacred and the Profane, and 4) Adolescence as a preferred developmental period for religious transmission. Taking this into account, Fuentes (2017a:201) characterized religion as: a belief in supernatural agents and counterintuitive concepts, comprising of symbolic ritual that helps develop a shared experience of the world and cultivating a differentiation of the sacred and the profane. Much of what religious systems entail is transmitted during childhood.

In the light of the current discussion, Van Huyssteen (2006:267) asserts that theologians are challenged with the responsibility to take seriously the fact that the human ability to respond religiously to ultimate questions, through various forms of worship and prayer, is deeply embedded in the human species' capacity for symbolic, imaginative behaviour, as well as in the embodied minds that make such behaviour possible. This valuable interdisciplinary approach is crucial to any responsible Christian theological perspective on what it means to be human.

Fuentes (2017a:213) concludes his discussion on the emergence of religion by asserting that imagination, faith, and hope preceded it. Long before the first appearance of modern human beings there is sufficient evidence that human ancestors were developing increasingly complex substantial cognitive and behavioural responses to social and ecological challenges (Fuentes 2017a:213). All knowledge of human history suggest that it was this behavioural and cognitive agility combined with increasing social cooperation and coordination, as well as the development of and experimentation with symbolic thought that enabled human beings to create meaning in ways that are distinctive.

At a certain point in the evolutionary process humans developed a new kind of semiosis,[54] specifically the use and creation of symbol. Today human beings are, therefore, deeply immersed in a symbolic system where imagination, hope, and the symbols associated with them can maintain stability and meaning and provide the

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[54] "Semiosis" refers to the study of how organisms approach meanings and patterns in the world.

infrastructure for faith (Fuentes 2017a:214). Good examples of this are the ideals for fairness and morality, the expectation of how people should behave, ideals for what the world ought to be like, and so forth. The ability to think in this way is facilitated by human symbolic abilities and is not necessarily tied to any of the actual detail of the physical world surrounding humans at any given time. This ability is, however, influenced by the meaning-laden and symbolic experiences that humans are enculturated by from childhood onwards. For Fuentes (2017a:214), in agreement with Van Huyssteen (2006), this is a key to understanding religious thought, and the way the world is interpreted arises from the interactions of many elements (bodies, brains, senses, experiences, other animals and humans, etc.). Human beings, both as individuals and communities, are embedded in a world of dense symbolic landscapes, and much of that landscape is religious.

In agreement with Fuentes (2017a:214), I want to argue that perhaps the understanding of the emergence and evolution of religious belief and institutions is more complicated than merely explaining what religions "do" for and to human populations. Perhaps the tendency of humans to be religious is not best explained as an adaptation produced through natural selection. And perhaps religious experience is a key outcome of the human niche, and the way humans "are" in the world. Human beings developed a niche across their evolutionary history where the imagination and symbol became central aspects of their ecology. Religious ritual, structures, and institutions are one way in which the imagination is deployed in humans. In order to gain a better understanding of the emergence of religion, it is necessary to identify the kinds of structures, behaviours, and cognitive processes in our archaeological past that might have enhanced the role that human symbol use and creation, as well as the human imagination, had in the initial appearances of religious experience, belief, ritual, and their associated institutions.

If there is indeed a naturalness to the human religious imagination, as Fuentes (2015a; 2017a) and Van Huyssteen (2016) argue, the perspective of a niche construction view of the evolution of the capacities that enable the development of religious belief and practice should be taken into account. Such a perspective supplements the toolkit of inquiry for diverse scholars interested in reconstructing the path to humanity and the possible roles that imagination, belief, and religion have played and continue to play.

It is further important to note that thinking about a religious human, someone who believes in a certain creed and practices with regard to meaning and faith, is not the same as thinking about religion. The exploration of the deep past of humans conveys very little about today's religions; it does, however, inform us a great deal about human capacities for meaning-making and how they might relate to religious belief and practices.

Lastly, Van Huyssteen makes us aware of an important point of caution, with which Fuentes agrees. There are certain limitations which come to light in exploring the capacity to be religious by means of an interdisciplinary dialogue with the sciences. Religious experience cannot be adequately explained by either biology or the neurosciences. Only the religious person can interpret or identify an experience as religious or not; consequently, only the religious person can qualify an experience as religious or not. Such an awareness of the limitations of scientific explanations illuminates the methodological need for an interdisciplinary approach for the understanding and explanation of religion and religious experience. So, it is exactly on this point that theology can play an indispensable role.

There is still a popular assumption that religion and morality are synonymous, which is known as a top-down view of morality. One of the well known theories in this field is the Divine Command Theory, which is the view that morality is by some means dependent upon God, and that moral obligation is obedience to God's commands. Naturally the content of these divine commands differs according to the different religions. I am not convinced, however, that the origin of morality could be best understood in a top-down perspective. In the next chapter I will explore the origin of morality from an inter-disciplinary perspective by drawing attention to perspectives within the study fields of evolutionary biology, philosophy, psychology and theology. Such an interdisciplinary approach, in my opinion, will offer a more comprehensive understanding of the origin of morality. Frans De Waal, Michael Tomasello, and Celia Deane-Drummond are just some of the important interlocutors who will feature in the discussion on the origin of morality.

# CHAPTER 4

# THE ORIGIN OF MORALITY

## 4.1 INTRODUCTION

The previous two chapters offer an in-depth discussion on the origin of imagination and religion. In what follows I will offer an interdisciplinary perspective on the origin of morality. I believe that a firmer grip on the origin of morality, and also its relation to imagination and religion, can provide us with a more comprehensive understanding of what it means to be human. In order to pursue responsible discussions on important ethical issues, it is of the utmost importance to be informed on what it means to be human today. The same applies to ethics. In order for ethics to be credible it should take into account interdisciplinary approaches to how humans became moral beings. The reflection gains in depth and substance by taking account of specific ethical designs such as Buddhist, Jewish, Christian etc.  According to De Waal et al. (2014a:137), there has been renewed interest in the evolutionary approaches to morality in the past decade. In the 1970s and 1980s morality and evolution were seen as irreconcilable.

In 1998 the American biologist, E. O. Wilson made the following comment in his publication *The Biological Basis of Morality* (1998:53)*:*

> Do we invent our moral absolutes in order to make society workable? Or are these enduring principles expressed to us by some transcendent or godlike authority? Efforts to resolve this conundrum have perplexed, sometimes inflamed, our best minds for centuries, but the natural sciences are telling us more and more about choices we make and our reasons for making them.

With this remark Wilson (1998:53) draws attention to the importance of consulting the natural sciences when searching for a more comprehensive understanding of crucially important aspects of being human, or as Van Huyssteen (2015:4) calls it, human

personhood. Van Huyssteen (2015:4) mentions that a more comprehensive understanding of human personhood would include exploring the evolution of these aspects, which were all of great importance to Darwin: the evolution of cognition, the evolution of imagination, music and language, the evolution of the moral sense, and the evolution of the religious disposition. The naturalistic understanding of morality, according to Wilson (2012:329), does not lead to absolute convictions and unquestionable judgements, but rather warns against blindly basing it on religious and ideological dogma.

The literature on the evolution of morality has grown enormously over the last few decades. Theologian Neil Arner (in Deane-Drummond et al. 2016:116) states that even though it is captivating and provocative, much of this work is often weighed down by a lack of conceptual clarity. Arner (in Deane-Drummond et al. 2016:116) refers to a warning by philosopher Thomas Nagel made in the 1970s, when work on the evolution of morality started to flourish (Nagel [1978] 1980:196): "The usefulness of a biological approach to ethics depends on what ethics is." The main point Arner (in Deane-Drummond et al. 2016:116) wants to stress is that some scholars, by utilizing "fuzzy concepts and faulty distinctions", have drawn hasty conclusions about the philosophical and theological implications of their research into the biological "basis" of morality.

In an attempt to refrain from drawing "hasty conclusions" my vantage point for the discussion on the origin of morality will be the modern discourse on its origin. It consists of an exposition of different perspectives from evolutionary biology, psychology, and theology, which will be analysed to determine the contribution of influential exponents of each discipline. Due to the scope of this thesis, I will only be able to look at some of the scholars who represent the current conversation on the evolution and origin of morality. The first scholar I will engage with is the primatologist Frans de Waal.[55] De Waal's evolutionary biological perspective will be the most detailed perspective considered here. Secondly, I will explore the perspective of

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[55] This perspective of Frans de Waal on the origin of morality is explored in great depth in the dissertation submitted in fulfilment of the requirements for my Masters of Theology degree (2016). In this current study, I offer some of the most important findings from the previous study on De Waal's perspective in a revised form and adapted to the research trajectory of this thesis.

Michael Tomasello, who offers insights from developmental and comparative psychology. The third perspective I am going to explore is that of the theologian Celia Deane-Drummond, who offers an interdisciplinary perspective integrating theology with the biological sciences. I will conclude this chapter with a brief summary and integration of the various perspectives.

## 4.2 FRANS DE WAAL

Frans de Waal is a Dutch primatologist and ethologist known for his work on the behaviour and social intelligence of primates. He is the Charles Howard Candler Professor of Primate Behaviour at the Emory University Psychology Department in Atlanta, Georgia, and director of the Living Links Centre at the Yerkes National Primate Research Centre. De Waal, as a leader in the field of primatology and a best-selling author, received praise for being among "the most influential people in the world" (The Time 100, 2007). This stature stems from his creative reflection on the study of primate social behaviour, and his drawing of parallels between primate and human behaviour in exploring peace-making, morality, culture, etc.

In his book *Good natured: The Origins of Right and Wrong in Humans and Other Animals* (1996:10), De Waal emphasizes the need for a biological perspective on morality. He views social acceptance as a central aspect of human morality. Social acceptance is based on what the individual should and should not do to be seen as worthy by the community. In De Waal's (1996:10) words:

> Immoral conduct makes us outcasts, either here and now or – in the beliefs of some people – when we are turned away from the gates of heaven. Universally, human communities are moral communities; a morally neutral existence is as impossible for us as a completely solitary existence … Human morality may indeed be an extension of general primate patterns of social integration, and of the adjustment required for each member in order to fit in.

In the investigation into the origin of morality, a characteristic of human society, De Waal (2006:6) notes that a parallel debate arises that sets reason against emotion. One school of thought regards morality as cultural innovation that can only be achieved by the human race. According to this school, a moral tendency is not seen

as part of human nature and our forefathers were moral by choice. This standpoint accepts that humans are not really moral and considers morality to be a type of cultural covering over an otherwise selfish nature. Until recently, this was seen as the dominant approach to morality. In contrast, the second school sees morality as the direct consequence of the social instincts that humans share with other animals (De Waal 2006:6). Morality is neither uniquely human nor a conscious decision taken in a specific time. According to this school, morality is a product of social evolution.

De Waal (2006:7) builds on a previous thesis (1996) by specifically focusing on the behaviour of non-human primates to explain why he sees the building blocks of morality as evolutionarily grounded. The role of selfishness in evolution is a matter of concern which is often interpreted wrongly. De Waal (2006:13) states:

> It is only recently that the concept of "selfishness" has been plucked from the English language. Robbed from its vernacular meaning, and applied outside of the psychological domain. Even though the term is seen by some as synonymous with self-serving, English does have different terms for a reason. Selfishness implies the *intention* to serve oneself, hence knowledge of what one stands to gain from a particular behaviour … Unfortunately, in complete violation of the term's original meaning, it is precisely this empty sense of "selfish" that has come to dominate debates about human nature.

Animals and humans can be described as the products of evolutionary forces that encourage self-interest. Yet one should keep in mind that this self-interest in no way prevents the evolution of altruistic and sympathetic tendencies. De Waal (2006:14) refers to Darwin, who acknowledges this in full and also explains the evolution of these tendencies with the help of group selection rather than individual selection. Darwin is convinced that his theory accommodates the origin of morality. Even in the moral sphere Darwin emphasises the continuity of the human species with other animals rather than the viewpoint that the human race falls outside the laws of biology (Darwin 1982 [1871]:71-72):

> Any animal whatever, endowed with well-marked social instincts, the parental and filial affections being here included, would inevitably acquire a moral sense or conscience, as soon as its intellectual powers had become as well developed, or nearly as well developed, as in man.

According to De Waal (2006:14), the necessity of the capability to sympathise, which is emphasised by Darwin, must be acknowledged. Darwin (1982 [1871]:77) states that many animals sympathise with one another's fears and worries. It is particularly in this area that there is distinctive continuity between humans and other social animals. To be instantly affected by the emotions of others appears to be very basic, for this reaction is present in a great variety of animals, often immediately and uncontrolled (De Waal 2006:14). This behaviour most likely originated in parental care, where defenceless individuals have to be fed and protected.

Darwin, in his view of sympathy, was inspired by the Scottish moral philosopher, Adam Smith (1937 [1759]:9), who notes the following:

> How selfish so ever man may be supposed, there are evidently some principles in his nature, which interest him in the fortune of others, and render their happiness necessary to him, though he derives nothing from it, except the pleasure of seeing it.

The evolutionary origin of this phenomenon is nevertheless no mystery, according to De Waal (2006:15). All species that depend on cooperation – from elephants to wolves and humans – show group loyalty and tendencies to help one another. These tendencies cultivate an interwoven social world where those within it help or do something to benefit family members and companions who have the capability to return the favour. The initiative to help is never without the survival value for the party that demonstrates the initiative. Yet this initiative is often separated from the consequences which form its evolution. Here the division between the altruism of animals and humans shrinks (De Waal 2006:15, cf. Wilson 1975:562).

De Waal (2006:16) deems it unnecessary to explain the origin of cooperative tendencies through group selection. It seems as though family selection and mutual altruism are relatively successful. He refers to the high occurrence of intergroup migration among non-human primates, which does not correspond to the conditions of group selection. In all primates the younger members of any generation tend to leave the group to engage with other groups (De Waal 2006:16; cf. Pusey and Packer 1987). Primate groups are therefore not genetically isolated and group selection is not possible.

In the discussion of the basis of morality De Waal (2006:16) sees the underlying capacities as far more important than the actual behaviour. For instance, rather than arguing that the part played in food gathering is a building block of morality, it is rather the capacities underlying sharing (amongst other things, high levels of tolerance, sensitivity to others' needs, mutual exchange) which are relevant. Ants also share food, but based on different instincts from those that make humans and chimpanzees share (De Waal 1989). Darwin understands this distinction and looks beyond the behaviour at the underlying emotions, intentions and capacities. In other words, whether animals treat one another nicely or not is not the issue. It is also not important whether their behaviour fits the moral preferences of humans or not. The relevant question is rather whether they have the capacity for reciprocity and revenge, for implementing social rules, for the settlement of disputes, and for sympathy and empathy (De Waal 2006:16; cf. Flack & De Waal 2000). It also means that attempts to discard Darwin in exploring our daily lives or a moral community are based on a misconception of Darwin. Darwin considers morality an evolutionary product and he had a more liveable world in mind than that of Thomas Huxley and his followers, who believed in a culture-driven, artificial morality that has no basis in human nature. Huxley's world is by far the colder, more daunting place (De Waal 2006:17).

De Waal (2006:17) refers to Edward Westermarck, who plays a central role in any debate about the origin of morality. Westermarck was one of the first scholars to encourage an integrated approach that studied both humans and animals, as well as both culture and evolution. Westermarck (cf. De Waal 2006:17) is also known for his strong emphasis on the central role of emotions in morality. De Waal (2006:18) explains that people can reason and deliberate as much as they want, but as neuroscientists discovered, if there aren't any emotions attached to the diverse range of options in front of them, they will by no means reach a decision or conviction. With regard to moral choice, emotion and decision making are essential, because morality entails strong decision making, which is not the result of rationality. Moral decision making requires caring for others and intense "gut feelings" about right and wrong (De Waal 2006:18).

The most enlightening part of Westermarck's work is his attempt to determine what defines a moral emotion as moral (De Waal 2006:20). He points out that such emotions

are more than "raw gut feelings" and explains that these emotions differ from "kindred non-moral" emotions by their "disinterestedness, apparent impartiality, and flavour of generality" (Westermarck 1917 [1908]:738-39). Emotions such as gratitude and resentment are directly linked to the individual's own interests – how the individual is treated or wants to be treated – thus these emotions are too egocentric to be moral. Moral emotions should not be connected to an individual's immediate situation. On a more abstract level, moral emotions deal with issues of good and bad. "It is only when we make general judgements of how anyone ought to be treated that we can begin to speak of moral approval and disapproval" (De Waal 2006:20).

Empathy and mutual behaviour are seen as the chief prerequisites or building blocks of morality (Flack & De Waal 2000). They cannot produce morality, yet they are essential components of it. No moral society can be imagined without mutual exchange and emotional interest in others. They provide a concrete starting point to study the continuity Darwin had in mind. The debate around the first school of thought or "veneer theory" (see De Waal 2006:7-12) is fundamental to this investigation, because some evolutionary biologists disagree strongly with the idea of continuity. They presented morality as pretence, so complex that only one species – the human species – had the capability to be moral. This viewpoint has no basis at all and prevents a fuller understanding of how we became moral. De Waal (2006:21) attempts to demonstrate the contrary with empirical data.

De Waal (2006:3-52) emphasises the great contrast between the two schools of thought around human goodness. The one school sees people as essentially evil and selfish, and morality as only a cultural covering. According to De Waal (2006:52), this school, personified by Huxley, is still present and there is a lack of explanation about how we changed from amoral animals to moral beings. The theory clashes with evidence of emotional processing as the driving force behind moral judgement. On this point De Waal (2006:52) explains: "If human morality could truly be reduced to calculations and reasoning, we would come close to being psychopaths, who indeed do not mean to be kind when they act kindly." De Waal posits a strong contrast between Huxley's thinking and the alternative school of thought, which tries to ground morality in human nature.

The alternative school of thought sees the origin of morality as naturally developing in our species and believes there are sound evolutionary reasons for the qualities that are involved. Yet the theoretical framework by which the transition from social animal to moral human is explained is incomplete. The theory's foundation is kin selection and mutual altruism, but it is clear that other elements need to be added. De Waal (2006:53) sees the evolutionary pressures responsible for our moral tendencies as not necessarily entirely positive: "After all, morality is very much an in-group phenomenon". Universally, people treat outsiders worse than members of their own society. Morality may have evolved as an in-group phenomenon in collaboration with other typically in-group qualities such as conflict resolution, cooperation and sharing.

A person's first loyalty is not towards the group, but towards the individual and their relatives. With growing social integration and dependence on cooperation, shared interests came to the foreground so that society as a whole became the focus: "The biggest step in the evolution of human morality was the move from interpersonal relations to a focus on the greater good" (De Waal 2006:54). We can observe traces of this in apes when they restore relationships with others and promote peace. De Waal (1996) regards such behaviour as a reflection of societal interest which, in turn, reflects what is important to each group member in a cooperative atmosphere. Most individuals have much at stake should a community disintegrate, hence the interest in the society's integrity and harmony.

Naturally, the most powerful force behind a sense of community is animosity against outsiders as De Waal (2006:54) explains: "In the course of human evolution, out-group hostility enhanced in-group solidarity to the point that morality emerged." Instead of merely palliative relationships around us, as is the case in apes, we have explicit teachings about the value of the community and the precedence it takes, or should take, above individual interests. People take this more seriously than apes do, and that is why we have moral systems and apes do not. In light of this notion De Waal (2006:55) states: "And so, the profound irony is that our noblest achievement – morality, has evolutionary ties to our basest behaviour – warfare." Should we accept the viewpoint that morality developed through an evolutionary process and we therefore see morality as a logical outcome of collaboration, then we are not going against our own nature when we develop a moral attitude of caring. Moral attitudes

are with us from the beginning; we are not being hypocritical nor deceiving people when we behave morally. We make decisions which flow from our social instincts, older than our species, even if we add the uniquely human complexity of impartial concern for others and society as a whole (De Waal 2006:55).

De Waal (2006:55) further emphasises the re-evaluation of the role of rationality in moral judgement. He refers to Haidt (2001), successor of Hume (1985 [1739]), who argues that most of human justification which looks *post hoc*, that is after moral judgement, is based on quick and automatic intuitions. The first school of thought, which focuses on human uniqueness, suggests that moral problem-solving is due to recent evolutionary extensions to our brain, such as the prefrontal cortex, while neurological tests show that moral judgement engages a variety of brain areas, some of which developed very early on (Greene & Haidt 2002; cf. De Waal 2006:56). In short, it seems that neuroscience supports the argument that human morality is evolutionarily relevant and anchored in the sociality of mammals.

Additional support for an innate approach to morality comes from child research. We are aware that children understand the difference between moral principles ("do not steal") and cultural conventions ("no pyjamas at school") from an early age (De Waal 2006:57). Their behaviour is not solely based on reward and punishment, and they develop a moral perspective shortly after the age of one by interacting with other members of the human species. De Waal's (2006:57) personal argument centres on the continuity between human social instincts and those of our closest related species, the apes: "but I feel that we are standing at the threshold of a much larger shift in theorizing that will end up positioning morality firmly within the emotional core of human nature. Humane thinking is making a major comeback".

My engagement with De Waal's view on the origin of morality proceeds by drawing attention to a few critical focus points in his work. These focus points include his perspective on the origin of empathy, the distinction between "is" and "ought", De Waal's Tower of Morality, as well as his bottom-up view of morality.

4.2.1 Empathy

According to Darwin (cf. De Waal 2005a:248), "[a]ny animal whatever, endowed with well-marked social instincts... would inevitably acquire a moral sense or conscience,

as soon as its intellectual powers had become as well developed, or nearly as well developed, as in man". Animals helping one another is not a new observation. In his publication, *Our Inner Ape,* De Waal (2005a:250) asks the following question: "If all that matters is survival of the fittest, shouldn't animals refrain from anything that fails to benefit themselves? Why help another get ahead?" He goes on to say that there are two main theories in this regard. Firstly, such behaviour has evolved in order to help genetically related individuals, which results in the promotion of the helper's own genes. A second theory states that animals engage in helping behaviour for the sake of mutual aid. Both parties stand to gain if animals help those who return the favour. According to De Waal (2005a:251), both theories involve the evolution of behaviour, but the actual motives remain unclear. Motives sprout from the present, whereas evolution is dependent on the success of a trait over many years.

Even though altruistic behaviour is common in humans and other social animals, De Waal (2005a:252) still argues that the sources of altruistic tendencies are mutuality and the helping of kin. In early human societies, "survival of the kindest" played a remarkable role in aiming at family and potential reciprocators (De Wall 2005a:253). Over time, sympathetic behaviour towards others became an objective, a vital aspect of religion and the core of human morality. By encouraging us to engage in neighbourly love, feeding the poor and so forth, Christianity as a religion enforces kindness, which is already part of our humanity (De Waal 2005a:253). Religions are thus merely emphasizing established capacities.

In the debate on the origin of empathy, De Waal (2006:21) states that psychologists and biologists often differ: "Psychologists sometimes put our most advanced traits on a pedestal, ignoring or even denying simpler antecedents". Biologists, however, prefer bottom-up accounts over top-down, whilst undeniably leaving room for the latter (De Waal 2006:23). Processes at the foundation are modified by higher-order processes once they have come into existence. For example, culture and language shape expressions of empathy. According to De Waal (2006:24), the distinction between "shaping" and "being the origin of" is fundamental. That being said, De Waal (2006:24) argues that "empathy is the original, pre-linguistic form of inter-individual linkage that only secondarily has come under the influence of language and culture". Bottom-up accounts, therefore, assume continuity between past and present, human and animal,

child and adult, and even between humans and the most primitive mammals (De Waal 2006:24).

Empathetic behaviour is second nature to people and anyone lacking such behaviour is often considered dangerous. De Waal (2005a:257) describes empathy as "[a]t it's simplest … the ability to be affected by the state of another individual or creature." It is essential to social animals to coordinate action and movement, communicate about water and food, assist those in need and communally respond to danger. According to De Waal (2006:25), there is ample evidence of one primate coming to another's relief during a fight, of emotional responses to the distress of others, or of putting an arm around the victim of an attack. It is a widely held view that almost all communication among non-human primates is emotionally facilitated (De Waal 2006:25).

*Emotional Contagion*

Empathy can be expressed in a number of ways. One of these ways is the ability to be affected by the state of another creature in body movement, such as when we mimic the behaviour of others (De Waal 2005a:257). Bodily identification, as De Waal (2005a:258) identifies the phenomenon, is common in animals. Apes, for example, yawn while watching a video of a yawning ape, and monkeys scratch themselves if they see another do so. Humans do the same and often not only in relation to our own kind. According to De Waal (2005a:259), social animals relate to one another on a very basic level. They are hardwired to connect and emotionally resonate with those they are surrounded by. Whilst watching photographs of facial expressions, people involuntarily copy the expressions observed. It is a fully automated process; our facial muscles echo the expressions even though we are not aware of doing so.

De Waal (2005a:260) states that simple forms of relating to others exist in all sorts of animals, since imitation and empathy require neither language nor consciousness. As an example, De Waal (2005a:260) refers to a classic experiment, not performed by him for ethical reasons. One monkey stopped responding for five days and another monkey for twelve days after observing a companion being shocked each time they pulled the lever to get food for themselves. To avoid inflicting pain on others, these monkeys literally starved themselves. The probable explanation in such studies is

distress caused by another's distress and not concern about another's welfare (De Waal 2005a:260). There is enormous survival value in responses like these. By observing the fear and distress of others, there is good reason for one to also be alert. This is one of the reasons why panic spreads so easily among people. We have been programmed to cautiously dislike hearing and seeing the pain of others (De Waal 2005a:260). Emotions have a tendency to arouse matching emotions, as can be seen in a room full of crying toddlers. The development of empathy begins in a similar way, as a toddler being overwhelmed by the emotions displayed by other toddlers. De Waal (2005a:261) states that emotional contagion stems from parts of the brain so ancient that humans share them with animals as diverse as dogs, rats, monkeys and elephants.

Even if such emotional contagion is undoubtedly a basic phenomenon, there is much more to it than one individual merely being affected by another's state (De Waal 2006:26). Two individuals will often engage in indirect interaction. Put differently, emotional and motivational states often become noticeable in behaviour explicitly directed at another individual. The emotional effect on the other individual is actively sought and not just a by-product (De Waal 2006:26). Emotional contagion develops into empathy with increasing differentiation between self and other, as well as an increasing appreciation of the precise circumstances underlying the emotional states of other individuals. De Waal (2006:26) makes the following remark in this regard: "Empathy encompasses – and could not possibly have arisen without – emotional contagion, but it goes beyond it in that it places filters between the other's and one's own state". Humans start to add these cognitive layers around the age of two.

*Sympathy and Personal Distress*

Sympathy and personal distress are two mechanisms related to empathy, which are the opposites in their social consequences (De Waal 2006:26). Sympathy can be defined as "an affective response that consists of feelings of sorrow or concern for a distressed or needy other (rather than the same emotion as the other person). Sympathy is believed to involve an other-oriented, altruistic motivation" (De Waal 2006:26, cf. Eisenberg 2000:677). Personal distress, on the other hand, makes the affected party selfishly seek to reduce its own distress, which is similar to what it has perceived in the object (De Waal 2006:27). Therefore, personal distress is not

concerned with the situation of the empathy-inducing other. In this regard De Waal (1996:46) provides the following example:

> The screams of a severely punished or rejected infant rhesus monkey will often cause other infants to approach, embrace, mount, or even pile on top of the victim. The distress of one infant seems to spread to its peers, which then soothe their own arousal by seeking contact.

Considering the lack of cognitive evaluation and behavioural complementarity in personal distress, it does not reach beyond the level of emotional contagion (De Waal 2006:27).

Empathy and sympathy are capacities that form an essential part of animal lives, even though most modern textbooks on animal cognition fail to index them. According to De Waal (2006:27), these capacities are merely being overlooked by a science that traditionally focuses on individual rather than inter-individual capacities. Survival often depends on how animals get along within their group in a competitive as well as a cooperative way. The highest cognitive achievements are, thus, expected in the social domain. In De Waal's (2006:27) opinion, mechanisms to evaluate the emotional states of others and respond to them quickly must have been favoured by selection. Empathy is just such a mechanism.

There is a close relation between sympathy and empathy, and their expression in psychological altruism, in human behaviour. It is, therefore, according to De Waal (2006:28), sensible to assume that the caring and altruistic reactions of other animals, especially mammals, rest on similar mechanisms. Furthermore, responses to the emotions of others, rooted in attachment, are commonplace in social animals. With reference to research done by De Waal (2003) and Preston and De Waal (2002), behavioural and physiological data suggest emotional contagion in a variety of species. It is worth mentioning that although early studies suggest that animals try to alleviate or prevent distress in others by behaving in certain ways, there are still a few areas of uncertainty. According to De Waal (2006:29), it remains unclear whether "spontaneous responses to distressed conspecifics are explained by (a) aversion to distress signals of others, (b) personal distress generated through emotional contagion, or (c) true helping motivations". Extensive work on non-human primates has provided further information. Some of the evidence on empathic reactions

furnished is qualitative, but there are quantitative data as well. De Waal (2006, 1996, 1997, etc.) provides multiple anecdotes and striking depictions of primate empathy and altruism.

*De Waal's Russian Doll Model of Empathy*

The core of empathetic capacity, as proposed by Preston and De Waal (2002:284-308), is "a relatively simple mechanism that provides an observer (the 'subject') with access to the emotional state of another (the 'object') through the subject's own neural and bodily representations". The subject's neural representations of similar states are automatically activated once the subject attends to the object's state. It will be easier for the subject's perception to activate motor and autonomic responses that match the object's if there is a higher degree of similarity between the subject and object. This activation, according to De Waal (2006:37), allows the subject to get "under the skin" of the object. It is accomplished by sharing the feeling and needs of the object, the embodiment of which, in turn, promotes sympathy, compassion and helping. De Waal (2006:38) also notes that the perception-action mechanism (PAM) of Preston and De Waal (2002) fits the somatic marker hypothesis of emotions, as developed by Damasio (1994). The PAM also fits recent evidence of a link between perception and action at cellular level.

De Waal (2003:379-399) developed a Russian Doll Model depicting how simple forms of empathy relate to more complex forms of it. De Waal (2006:39) notes that this model does not claim that higher cognitive levels of empathy are irrelevant, but rather promotes the notion that higher cognitive levels of empathy are built on a firm, hardwired basis without which humans would be at loss about what moves others. Certainly, not all empathy can be reduced to emotional contagion, but it never gets around it. In short, De Waal (2003:396) describes the Russian Doll Model as follows:

> According to the Russian Doll Model, empathy covers all processes leading to related emotional states in subject and object. At its core is a simple, automatic Perception-Action Mechanism (PAM), which results in immediate, often unconscious state matching between individuals. Higher levels of empathy that build on this hardwired basis include cognitive empathy (i.e., understanding the reasons for the other's emotions) and mental state attribution (i.e., fully adopting the other's perspective). The Russian Doll Model posits that outer layers require inner ones.
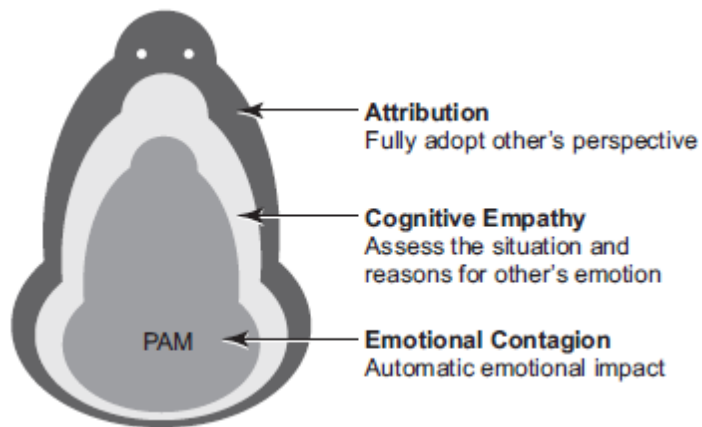
**Figure 1** De Waal's Russian Doll Model (De Waal 2006:39).

Cognitive empathy makes it possible to provide targeted help that takes the specific needs of the other into account. According to De Waal (2006:40), these responses go well beyond emotional contagion. However, it would be hard to explain these responses without the motivation provided by the emotional component. Monkeys, as well as other social mammals, seem to clearly experience the phenomenon of emotional contagion and a limited degree of target helping. Yet targeted helping is a far more robust phenomenon in the greater apes (De Waal 2006:40).

This short but critical review of De Waal's view on empathy emphasizes that it is not an all-or-nothing phenomenon. Rather, "it covers a wide range of emotional linkage patterns, from the very simple and automatic to the highly sophisticated" (De Waal 2006:41). It is reasonable to first try and understand the basic forms of empathy before focusing on the variations that cognitive evolution has built on top of this foundation.

## 4.2.2 "Is" and "Ought"

The so-called is/ought distinction can be viewed as one of the most frustrating difficulties facing attempts to root morality in biology (De Waal 2014b:185). According to De Waal (2014b:185), David Hume (1739) is credited with formulating the concept, not seeing it as a sharp distinction. The motivation behind this distinction is Hume (1739) noticing how frequently authors move from accounts of how things are to proclamations about how things ought to be; the way we feel human beings ought to behave is not merely a reflection of human nature.

With regard to the issue of morality, the evolution of behaviour is sometimes considered irrelevant. The reason for this is that the evolution of behaviour lacks the normative character of morality ('ought'), and consists entirely of descriptions of how things came about ('is'). However, according to De Waal (2014b:185), evolved behaviour, including that of other animals, is not entirely lacking in normativity. Normativity can be defined as adherence to a standard or ideal. If this is the case, there is sufficient evidence that animals treat their social relationships in this way. In this line of thought social values are being enacted by animals. In the article *Natural normativity: The 'is' and 'ought' of animal behaviour,* De Waal (2014b) reviews evidence confirming that non-human primates actively try to preserve harmony within their social network. These non-human primates pursue this ideal by, for example, reconciling after conflict, breaking up fights between others and protesting against unequal divisions. In doing so, they correct deviations from an ideal state. Anticipatory conflict resolution and emotional self-control are also evinced by them in order to prevent deviations from this ideal state. De Waal (2014b:185) makes the following remark in this regard: "Recognition of the goal-orientation and normative character of animal social behaviour permits us to partially bridge the is/ought divide erected in relation to human moral behaviour".

In agreement with many philosophers, De Waal (2014b:187) mentions that it is hard, maybe impossible, to reason from the level of how things are to the level of how things ought to be. De Waal (2014b:187) goes on to explore the width of the is/ought division by entering the domain of actual behavioural tendencies and motivations instead of the conceptual domain. What if morality is grounded in emotional values, as Hume suggested, and not rationally constructed? What if biology informs us of the "ought" side of the division and thus provides us with an explanation for the values we pursue and the evolutionary reason behind them? This would, of course, place biology not only on the "is" side of the division. De Waal (2014b:187) argues that all organisms attempt certain outcomes, part of which entail survival and reproduction. However, social outcomes, close to those supported by human morality, are also pursued by many organisms.

It can be argued that the behaviour of other animals is normative because it seeks certain outcomes, but they seek these outcomes without normative judgement. Animal

behaviour is not entirely free of normativity, which can be defined as the adherence to an ideal or standard (De Waal 2014b:187). Physical structures built by animals guided by a template of what the structure ought to look like, as regularly seen in nature, are a clear example of this notion. This does not imply normative judgement, but goal states are undeniably pursued by animals whether it be collectively or individually. The question De Waal (2014b:187) asks in this regard is whether animals do the same in terms of their social organization at large and of social relations. In an attempt to answer this question, De Waal (2014b:188) examines the notions of (1) social hierarchy and impulse control, (2) one-on-one normativity and (3) community concern.

*Social Hierarchy and Impulse Control*

De Waal (2014b:188) sheds light on a phenomenon called a *dominance hierarchy*, which is a massive system of social inhibitions. The dominance hierarchy paved the way for human morality, which is a similar system. In the dominance hierarchy, impulse control is necessary to avoid inconvenient consequences. For example, low-ranking males in macaques and other primates vary their behaviour depending on the presence or absence of the alpha male (De Waal 2014b:188). Immediately after an alpha male turns his back, other males will approach females. Both low-ranking and high-ranking animals benefit from impulse control. De Waal (2014b:188) mentions that a young male chimpanzee may challenge an alpha male's nerves by throwing rocks in his direction or making an impressive charging display with all his hair on end. Experienced alpha males will, however, completely ignore this disturbance, consequently forcing the younger male to give up or intensify the challenge. Punishment ultimately leads to inhibitions associated with the hierarchy (De Waal 2014b:189).

Referencing research done by Mischel et al. (1972) and Logue (1988), De Waal (2014b:189) states that the capacity for impulse control can be experimentally tested similar to the testing of delayed gratification in children. It seems as if the same interweaving of cognition and emotion observed in humans can be applied to our close relatives. This, hence, includes the deliberate control of emotions. De Waal (2014b:190) states in this regard: "Insofar as such control is mediated by the frontal lobes, it should be pointed out that the popular view that this part of the brain is exceptionally developed in our species is erroneous. The human brain is essentially a

linearly scaled-up monkey brain". Here, morality is defined as a system of rules that orbits around the two Hs of Helping or at least not Hurting fellow human beings (2014b:191).

*Helping or (not) Hurting*

De Waal (2005a:279) has a rather atypical view of morality that involves either Helping or (not) Hurting, concepts which are interlocked. As an example De Waal (2005a:279) uses the scenario of a person drowning. If person A is drowning and person B withholds assistance, person B is, in effect, hurting person A. Person B's decision to help or not is essentially a moral choice. According to De Waal (2005a:279), anything in conflict with Helping or (not) Hurting cannot be associated with morality, even if it is proposed as a moral concern. Food and mates are critical resources concerning Helping or (not) Hurting, as both are part of rules for exchange and possession (De Waal 2005a:280). With reference to male primates, mates are most important as their reproduction depends on the number of fertilized females. Food, on the other hand, is more vital to female primates. In this regard, De Waal (2005a:280) holds that:

> It is logical ... that sex-for-food deals among apes – in which copulation leads to the sharing of food – are asymmetrical: males go for the sex, females for the food. Since the giving and receiving occur almost at the same time, these deals are a simple form of reciprocity.

According to De Waal (2005a:281), true reciprocity relies on trust, memory, felt obligations and gratitude, and therefore it is more complicated than stated above. People often do favours that are repaid much later. Reciprocity is part and parcel of our society and it would be shocking if someone failed to grasp the idea. For example, Person A helped person B move a large refrigerator from the 3rd floor of their apartment. A few months later, person A is also moving and calls person B to inform them that they also have a large refrigerator that needs to be moved. If person B does not offer to help move the refrigerator, person A might remind person B of how they helped them move their refrigerator, which might be a provocative comment. If person B still does not offer to help, person A might explicitly mention the idea of reciprocity, which will be most embarrassing for person A. Say, for instance, person B is of the opinion that they do not believe in reciprocity, person A would find that truly disturbing.

Even if people have the understanding that the repaying of a favour is not always possible, it is hard to understand somebody who deliberately denies mutual interchange. The denial will result in that person being a social outcast, someone, according to De Waal (2005a:281), who lacks a crucial moral propensity.

De Waal (2005a:281) defines reciprocity as an elegant, all-encompassing principle, a human universal, the flipside of which is revenge. Reciprocity can easily be explored by the concept of food sharing. According to De Waal (2005a:285), sharing can be traced back to the days when hunting was essential. It also explains why it is not very common in other primates. Three primates can be discerned as being the best at public sharing, namely humans, capuchin monkeys and chimpanzees. All three primates are fond of meat and hunt in groups. These primates even share among adult males, which makes sense because males do most of the hunting. On this point, De Waal (2005a:285) states:

> If a taste for meat is indeed at the root of sharing, it is hard to escape the conclusion that human morality is steeped in blood. When we give money to begging strangers, ship food to starving masses, or vote for measures that benefit the poor, we follow impulses shaped since our ancestors first gathered around a meat possessor. At the centre of the original circle is something desired by many but obtainable only with exceptional strength or skill.

De Waal (2005a:289), in his discussion on Helping or (not) Hurting, states that people are like bookkeeping clerks. People are constantly aware of all incoming and outgoing transactions. Received help will be reimbursed with help and received hurt with hurt. Unnecessary imbalances are not welcome.

Morality, therefore, often puts community interests before those of the individual and addresses the well-being of others. Self-interest is not denied, but limited in order to promote a cooperative society (De Waal 1996, 2005b). It is this functional definition that sets morality apart from habits and eating with lifestyle practices, such as eating with a knife and a fork rather than bare hands (De Waal 2014b:191). Already in young children the distinction between moral rules and conventions can be detected. De Waal (2013:221; 2014b:191) proceeds to distinguish between two basic levels of moral rules. The first level, one-on-one normativity, concerns social relationships, whilst the second level is rules at the community level.

*One-on-One Normativity*

One-on-one normativity reflects an understanding of how an individual's own behaviour affects others. According to De Waal (2013:221), we share this level of moral rules with other social animals, which develop comparable inhibitions and codes of behaviour. Disharmony is the product of failure, which explains the obligation or "ought" to consider the interests of other individuals. The protection of valued relationships is the centre around which the one-on-one level revolves. According to De Waal and Van Roosmalen (1979:55-56), conflict resolution can be viewed as one of the most common expressions of relationship preservation. From primatology's interest in and exploration of social relationships, it became clear that almost thirty different primate species engage in reconciliation after fights and that reconciliation is not limited to primates only (De Waal 2014b:192). This widespread occurrence of reconciliation is due to its restoration of relationships damaged by aggression, which are crucial for survival. Repair mechanisms are crucial in established cooperative relationships as conflict occasionally arises in these relationships.

According to De Waal (2014b:193), most of the studies regarding animal conflict resolution support the so-called "valuable relationship hypothesis", which he formulates as follows: "Reconciliation will occur especially between individuals who stand much to lose if their relationship deteriorates." In reference to Verbeek et al. (2000), De Waal (2014b:194) notes that very similar results have been obtained by applying the same standardized methodology, as used in the primatological studies, on children. Primates shield against the adverse effects of conflict and distress, a notion known as "preventive conflict resolution" (De Waal 2014b:194). This phenomenon can be clearly observed during play. De Waal (2014b:194) refers to the following argument by Bekhoff (2001:85):

> During social play, while individuals are having fun in a relatively safe environment, they learn ground rules that are acceptable to others — how hard they can bite, how roughly they can interact — and how to resolve conflicts. There is a premium on playing fairly and trusting others to do so as well. There are codes of social conduct that regulate what is permissible and what is not permissible, and the existence of these codes might have something to say about the evolution of morality.

Bekhoff (2001:85) thus draws a parallel between preventative conflict resolution and morality. Great value is attached to social harmony, which becomes visible in the maintenance of good relations.

De Waal (2014b:195) draws attention to another way of maintaining social relations which is known as "striving for fair reward division." This becomes clear in negative reactions towards skewed reward distribution, also known as "inequity aversion (IA)." In a cooperative environment, animals need to compare the benefits they obtain relative to their cooperation partners to ensure that they are not being taken advantage of. In the case of unfair distribution, reciprocal cooperation can easily become a form of altruism on the part of those who earn less. According to De Waal (2014b:195), this problematic outcome is increasingly a theme in animal research and has been recognized in humans.

A distinction is made between disadvantageous IA and advantageous IA. In the former the subject responds negatively to receiving less, whereas in the case of the latter the subject responds negatively to receiving a more valuable outcome. Both responses occur in humans. According to Brosnan and De Waal (2012:336:351) advantageous IA, which represents a full sense of fairness, might occur in situations where individuals anticipate the negative implications of disadvantageous IA in other individuals. The individual who receives more tries to prevent the relationship from falling apart, because of the inequity, by equalizing the outcome. Brosnan and De Waal (2012:341) refer to this phenomenon as a "second-order sense of fairness" and make the following remark in this regard (Brosnan & De Waal 2012:341): "In order to prevent conflict within close or beneficial relationships, the advantaged individual will benefit from either protesting or rectifying the situation."

De Waal (2014b:197) mentions that there are thus far no signs of second-order fairness in monkeys; however, the evidence with regard to apes is increasing. De Waal (2014b:197) refers to a study done by Proctor et al. (2013) as but one example. This study is based on the Ultimatum Game (UG), which is considered by De Waal (2014b:197) as the gold standard of human fairness. The UG requires two individuals, a proposer and a respondent, taking part in the game. The proposer can split money with the respondent. The proposer accepting the offer will result in both the players being rewarded, using the proposed split. If the offer is rejected by the proposer,

neither player will be rewarded. Proctor et al. (2013) designed a more intuitive UG procedure for both 3- to 5-year-old human children and chimpanzees (De Waal 2014b:197):

> Proposers were presented with a choice of two differently coloured tokens that could be exchanged with a human experimenter for food. One colour represented an equal reward distribution (3 vs. 3 banana slices), whereas the other represented an unequal distribution favouring the Proposer (5 vs. 1 banana slices). The Proposer would need to hand the token to its partner, the Respondent, sitting behind a mesh panel. Respondents could either accept the token, and return it to the experimenter, or reject it by not returning the token. As in the typical human UG, Proposers thus needed the Respondent's collaboration. Token choices were compared with choices in the presence of passive Respondents, who lacked any influence. Chimpanzees were sensitive to the contingencies of the game in the same way as humans. If their partner had control, they more often split the rewards equally. In the absence of partner influence, however, they preferred the option that gave themselves the largest proportion of rewards.

The study suggests that humans and chimpanzees share patterns of proactive decision-making in relation to fair outcomes, since the children behaved similarly (De Waal 2014b:197). Because of the thinness of the one-on-one level of moral rules, De Waal (2013:222) developed the second level, known as community concern, which will be explored briefly.

*Community Concern*

Personal interests are not denied on this level, but the goal is to rather achieve harmony within the larger community. De Waal (2013:222) argues that even though some animals show basic forms of community concern, it is at this level that human morality differs from anything encountered thus far. Human morality may, therefore, be unique in the sense that humans extend their moral reasoning to the society as a whole. In doing this, humans speculate what would happen to a community if everyone acted in a particular way. The value system of humans is even extended to interactions that they are not directly involved in. De Waal (2014b:198) distinguishes between typical emotions and moral emotions:

> Typical emotions concern only our personal interests – how we have been treated or how we want to be treated – whereas moral emotions go beyond this. They deal with right and wrong at a more abstract level. It is only when we make judgements of how anyone under the circumstances ought to be treated that we speak of moral judgement.

Traces of this level can, however, be seen in the behaviour of some primates. De Waal (1996) previously referred to this level as "community concern". According to De Waal (2014b:198), there are many examples of impartial policing and mediation that reflect community values. The highest-ranking member of the group, in some species, ends fights or tries to reduce the harshness of aggression. De Waal (1982) provides detailed descriptions and analyses showing that social ties with the conflict participants are ignored by males during this process. Controlling males intervene independent of their usual social preferences, whereas most individuals support friends and kin (De Waal 1992:223-257). A basic form of justice in the social systems of non-human primates is suggested by the ability to put such preferences aside (De Waal 2014b:198).

Mediation is another important method of conflict resolution that has been identified in primate groups. De Waal (2014b:198) defines mediation as follows: "Mediation occurs when a third party to a conflict becomes the bridge between two former opponents unable to reconcile without external help." The following example of two adult males brought together by an adult female after serious conflicts between the two opponents is provided by De Waal and Van Roosmalen (1979:62):

> The female approached one of the males, kissed or touched him or presented towards him and then slowly walked towards the other male. If the male followed, he did so very close behind her (often inspecting her genitals) and without looking at the other male. On a few occasions the female looked behind at her follower, and sometimes returned to a male that stayed behind to pull at his arm to make him follow. When the female sat down close to the other male, both males started to groom her and they simply continued when she went off. The only difference being that they groomed each other after this moment, and panted, spluttered, and smacked more frequently and loudly than before the female's departure.

The individual interests of the mediator should not be overlooked, even though mediation is known as an expression of community concern. Community concern

merely refers to individuals advancing the interests of their own community as a whole and that might also be to their own benefit. Sacrifice and thus selection at group level are not implied by community concern.

De Waal (2014b:199) lastly points to the critical role that prestige and reputation play in community concern. For the same of prestige and reputation humans often act on behalf of the community, despite the fact that they do not directly gain from it. Traces of reputation concern can be observed in apes. De Waal (2014b:199) draws attention to bystanders that would wake up an alpha male in the case of a big fight that gets out of control. He is known as the most affective mediator and is urged to step in. Even though this evidence suggest that chimpanzees perform actions to benefit the community as a whole, it still falls short of demonstrating the human preoccupation with community welfare as a whole. It is at this level that human moral systems especially differ from the normativity found in other primates (De Waal 2014b:200).

In conclusion, the notion that biology and animal behaviour are located solely on the "is" side of the is/ought divide is not easily sustainable (De Waal 2014b:200). It is possible, of course, to describe animal and human behaviour without any reference to goals, values and intentions. However, such descriptions overlook an indispensable aspect. According to De Waal (2014b:200),

> Non-human primates, as well as many other animals, strive for specific outcomes. They do so both in relation to physical structures, such as nests and webs, and in relation to social relationships. They actively try to preserve harmony within their social network. They frequently correct deviations from this ideal by, e.g., reconciling after conflict, protesting against unequal divisions, and breaking up fights amongst others. They behave normatively in the sense of correcting, or trying to correct, deviations from an ideal state. They also show emotional self-control and anticipatory conflict resolution in order to prevent such deviations.

With reference to De Waal's point the gap between primate behaviour and human moral norms is much narrower than commonly thought. The occurrence of differences, however, is not denied. According to De Waal (2014b:200), other primates seem not to extend norms beyond their immediate social environment and appear unworried about social relationships or situations that they do not directly participate in. They also may not, like humans, feel any obligation to be good, or experience guilt and

shame whenever they fail. We do not know if other animals experience such "ought" feelings.

Social behaviour among primates may be evaluated as either successful or unsuccessful in promoting its goals, but not in terms of right and wrong. On the contrary, a kind of evaluation of past actions can be suggested by social behaviour. De Waal (1989) provides the following example to support his view: "one bonobo bites another and soon thereafter approaches the injured bonobo, remembering the exact location of the bite, only to spend half an hour licking the inflicted injury". If one takes into account that animal experience is unable to be fully analysed, the possession of internalized normativity is still highly speculative.

De Waal (2014b:201), for the moment, claims "that insofar as the 'ought' of human morality reflects a preference for certain social outcomes over others, similar preferences seem to guide other animals without necessarily implying that they are guided by the same sense of obligation of how they ought to behave as humans."

### 4.2.3 De Waal's Tower of Morality

De Waal (2006:161) focuses on what is present in other primates and emphasizes the shared characteristics, rather than focusing on what seems to be missing, as some of his most respected colleagues do (De Waal 2006:191). On this notion De Waal (2006:161) remarks: "This reflects my desire to counter the idea that human morality is somehow at odds with our animal background, or even with nature in general." Whilst taking into account the suggestions to consider discontinuities, De Waal (2006:161) is of opinion that evolution does not occur in leaps. Modified old traits result in new traits, therefore closely-related species only differ in degree. Human morality, while representing a noteworthy step forward, barely breaks with the past.

De Waal (2006:161), with reference to MacIntyre (1999), mentions that because we rely on a support system for survival, morality arose as a group-oriented phenomenon. A person living in isolation would have no need for morality. This is also true of someone living with other people but without reciprocal reliance. There would seem to be no need to evolve social restraints or moral tendencies (De Waal 2006:162). Limitations are placed on behaviour through morality in order to encourage cooperation within the community. Moral rules create a particular method of living

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amongst all people, regardless of age, social class, health and so on (De Waal 2006:162). Morality often places the common good above individual interests, as it helps people get along and complete joint endeavours. Morality insists that we treat others the way we would like to be treated, but never denies individual interests. The moral domain of actions, is, more specifically, the action of the two Hs, Helping or (not) Hurting (as discussed earlier), which are interconnected. The decision to help, or not, is by all accounts a moral one (De Waal 2006:162; 2005b).

De Waal (2006:162) is clear about the view that anything unrelated to the two Hs falls outside morality. The distinction between morality and social conventions must be noted. Social conventions, of which there are a great variety, are not necessarily anchored in the needs of others or the community. Different cultures support different social conventions. Moral rules constrained by their impact on the well-being of others, are far more constant than social conventions (De Waal 2006:162). It is impossible for a moral system to give equal consideration to all life on earth and, therefore, the system has to prioritise (De Waal 2006:163). This is due to how well orientation towards their own group has served humanity in both the past and present. Moral systems are essentially biased towards the in-group. De Waal (2006:163) argues that morality evolved to deal firstly with one's own community. Non-human animals, members of other groups and humanity in general were included only recently.

De Waal (1996:212) developed the concept of the *floating pyramids* to explain the expanding circle of human morality. Altruism is assured by what an individual can afford. The circle of morality can only reach farther if the survival and health of the innermost circles are secure. De Waal (1996:212) prefers using the image of a floating pyramid, rather than an expanding circle. The available resources provide the force lifting the pyramid out of the water, whilst the extent of moral inclusion is reflected by the size above the surface. The wider the network of aid and obligation, the higher the pyramid rises.
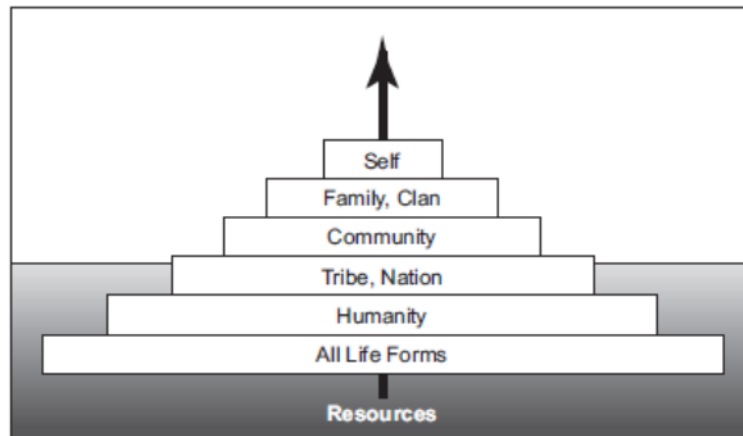
**Figure 2** De Waal's Floating Pyramid of Morality (De Waal 2006:165).

Loyalty is a moral duty (De Waal 2006:165). It is not just that humans are biased in favour of the innermost circles, we ought to be. However, species take care of kin and build exchange networks with fellow human beings both inside and outside their group, as soon as the immediate threat to survival is removed. Human beings, compared to other primates, are a remarkably giving species (De Waal 1996:214). Moral inclusion does not suggest that every person is valued equally. Other people may be equal in principle, but in practice human cooperativeness and kindness are spread more thinly the farther we get from community and kin (De Waal 2006:214).

*Three Levels of Morality*

De Waal (2006:166) argues that even if the human moral capacity evolved out of primate group life, it should not be taken to mean that specific moral solutions are prescribed by our genes. Moral rules are not imprinted in the genome. People are not born with any specific moral norms in mind. They are, however, born with a learning agenda that tells them which information to absorb. This allows people to figure out, comprehend and eventually internalize the moral fabric of our native society. De Waal (2006:166) notices parallels between the biological foundation of morality and language, due to a similar learning agenda that underlies both moral rules and language acquisition. A child, for example, is not born with any particular language, but with the ability to learn any language. The same applies to moral rules. People are born to absorb moral rules and weigh moral options. This results in a thoroughly flexible system that nevertheless revolves around the same basic loyalties and the same two Hs it has always had (De Waal 2006:167).

Human morality can be divided into three distinct levels (De Waal 2006:167). The first level and one half of the second level seem to have obvious parallels in other primates. All of human morality is continuous with primate sociality, since the upper levels cannot exist without the lower levels (De Waal 2006:167). The three levels of morality are briefly discussed below.

*Level One: Building Blocks*

The first level of morality is what De Waal (2006:167) describes as the level of moral sentiments, or the psychological "building blocks" of morality. These blocks include reciprocity and empathy, retribution, conflict resolution, and a sense of fairness, all of which have been documented in other primates. De Waal (1999: Appendix A) prefers to use the same terminology to talk about humans and apes in the classification of these blocks. The reason is that if two closely-related species act similarly, the logical default assumption is that the underlying psychology is also similar: "From an evolutionary perspective, we really have no choice other than to use shared language for similar behavioural phenomena in humans and apes" (De Waal 2006:167). The first level of morality seems well-developed in the close relatives of humans. However, major differences occur on the second level (De Waal 2006:169).

*Level Two: Social Pressure*

The second level of morality concerns the social pressure put onto every member of the community to contribute to common goals and uphold agreed-upon social rules (De Waal 2006:169). This level is not entirely absent in other primates. Chimpanzees, for example, do appear to follow social rules and care about the state of affairs within their group. The most important feature, in relation to morality, is community concern, as previously mentioned. Community concern can be reflected in the way high-ranking females restore the peace by bringing parties in conflict together after a fight (De Waal 1996; De Waal & Van Roosmalen 1979:62).

De Waal (2006:168) further describes social pressure as insisting that everyone behaves in a way that favours cooperative group life. Reward, punishment and reputation building are the tools to this end. Social pressure is less systematic and less concerned with the goals of society as a whole, although community concern and

prescriptive social rules do exist in other primates. With regards to our own species, the idea that individuals can make a difference for the group as a whole has been taken a giant step further (De Waal 2006:171). Deeds that contribute to the greater good are praised by people, whilst deeds that undermine the social fabric are criticised. Chimpanzees also distinguish between acceptable and unacceptable behaviour. This distinction, however, is always closely tied to immediate consequences, specifically for themselves. Therefore, apes and other highly social animals seem capable of developing prescriptive social rules (De Waal 2006:172; see also De Waal 1996). As impressive an example as this is, the human species goes significantly further than any other.

Moral systems impose countless restraints. Morality, consistent with the biological imperatives of reproduction and survival, reinforces a cooperative society – a society to which most are prepared to contribute and from which everyone benefits. Morality, in this view, functions as a social contract (De Waal 2006:173). The third level of morality goes even further and comparisons with other animals become scarcer.

*Level Three: Judgement and Reasoning*

The level of judgement and reasoning refers to the internalization of others' needs and goals to the degree that these needs and goals figure in an individual's judgement of behaviour (De Waal 2006:168). This includes others' behaviour that does not directly concern the individual. Humans follow an internal compass, judging themselves (and others) by evaluating the intentions and beliefs that underlie their own (and others') actions. According to De Waal (2006:174), the desire for an internally consistent moral framework is uniquely human. This does not imply that moral reasoning is totally disconnected from primate social tendencies. The internal compass of humans is shaped by the social environment (De Waal 2006:174). Positive or negative reactions to behaviour are noticed and the goals of others and the needs of our community are derived from this experience. These goals and needs are internalized. Moral norms, therefore, are born from internalized interactions with others (De Waal 2006:174). De Waal (2006:174) goes so far as to say that a human being growing up in isolation would never develop or acquire the capacity for moral reasoning. Such a human being would lack the experience to be sensitive to the needs and interests of others and

consequently lack the ability to look at the world from a different perspective than their own. De Waal (2006:175) makes the following statement in this regard:

> I consider this level of morality, with its desire for consistency and "disinterestedness," and its careful weighing of what one did against what one could or should have done, uniquely human. Even though it never fully transcends primate social motives, our internal dialogue nevertheless lifts moral behaviour to a level of abstraction and self-reflection unheard of before our species entered the evolutionary scene.

Social interaction must, therefore, be at the root of moral reasoning (De Waal 2006:174).

### 4.2.4 Bottom-up Morality

De Waal (2013:289), holding a bottom-up view of morality, bears in mind the fact that everything started simple. This is not only true of our bodies, but also our minds and behaviour. Religion drilled into our minds the belief that morality is somehow enforced on us by an external source (De Waal 2013:287), a view that is also embraced by certain philosophies. This belief contrasts what modern sciences make known about other animals and the pre-eminence of emotions and intuitions. By holding a bottom-up view of morality, De Waal (2013:289) emphasizes that "the moral law is not imposed from above or derived from well-reasoned principles; rather, it arises from ingrained values that have been there since the beginning of time."

The most essential deep-rooted values stem from the survival value of group life. People are eager to do anything possible to have a good relationship with those upon whom they are dependent. The desire to get along, to be loved or to belong is the force behind these actions. De Waal (2013:289) states that humans share this value with other social primates, who rely on a similar filter between action and emotion in order to reach a mutually agreeable mode of living. It all boils down to inhibitions. Humans are mammals – a group of animals known for sensitivity to one another's emotions (De Waal 2013:291).

There is, however, the next level of morality, also referred to in the discussion on judgement and reasoning. This is the level where humans are far ahead of other primates (De Waal 2013:297). Humans show intense care for the group level, resulting

in the development of notions of right and wrong for everyone around and not just the individual or close relations. This level of morality involves greater powers of abstraction and anticipation of what may happen if we allow others to get away with behaviour that does not necessarily affect us (De Waal 2013:297). The impact of this behaviour on the greater good can be imagined through our capacity for imagination. Reputations of reliability and righteousness are being built whilst we disapprove of fraud and uncooperative people; the human goal is to put collective goals above selfish ones. According to De Waal (2013:297), morality serves to distribute the benefits of group life and to limit exploitation by a dominant elite. In this regard, De Waal (2013:297) follows the traditional biological view of morality as an in-group phenomenon, a view that can be traced back to Darwin. De Waal (2013:297) refers to a summary by Christopher Boehm (2012:110): [56]

> Our moral codes apply fully only within the group, be it a language group, a non-literate population that shares the same piece of real estate or the same ethnic identity, or a nation. There seems to be a special, pejorative moral "discount" applied to cultural strangers – who often are not even considered to be fully human…

There is no need for morality to be applied only to within-group contexts, even though there is no doubt that morality evolved for within-group reasons without much consideration for humanity at large. De Waal (2013:298) highlights the fact that, at present, we try to move beyond moral narrow-mindedness. Everything we have learnt about an honourable human life is applied to the wider world, including strangers and enemies.

### 4.2.5 Summary and Critique

De Waal (2006:57) asks "why morality was seen in the past as unnatural, altruistic behaviour, as hypocritical and why emotions were totally omitted from the debate?"; this view relates closely to a disbelief in the "Darwinian world." The answer lies in the fact that there is not a strong connection between the process of natural selection and its various products (De Waal 2006:58). We make the mistake of thinking natural selection leads only to cruel and merciless creatures, because the process seems

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[56] Christopher Boehm is an American cultural anthropologist with a sub-specialty in primatology, who researches conflict resolution, altruism, moral origins, and feuding and warfare.

cruel and merciless (De Waal 2005a). It is important to note that natural selection does not work in this way, but simply benefits organisms that adapt, survive and reproduce. How they achieve this depends on them. Any organism that can do better by either becoming more or less aggressive than others, more or less cooperative, or more or less caring will be able to spread its genes. The process does not specify a route to success. Natural selection has the capacity to produce a wide variety of organisms from the most asocial and competitive to the friendliest and most gentle. De Waal (2006:58) explains that: "The same process may not have specified our moral rules and values, but it has provided us with the psychological makeup, tendencies, and abilities to develop a compass for life's choices that takes the interests of the entire community into account, which is the essence of human morality."

De Waal (1996:10) emphasizes the necessity of a biological perspective on morality. The main building blocks or prerequisites of morality are empathy and reciprocity. A moral society is characterised by mutual exchange and emotional interest in other people. De Waal (2006:16) does not deem it necessary to explain moral tendencies in relation to selection in group context. It seems as if theories of selection in relation to families and mutual altruism are fairly successful. De Waal emphasises the importance of the capacities underlying behaviour, a distinction Darwin could have noted by looking past the behaviour to the underlying emotions, intentions and capacities. The relevant question is whether non-human animals have the capacity for reciprocity and revenge, the implementation of social rules, the settlement of disputes, and sympathy and empathy (De Waal 2006:16, cf. Flack & De Waal 2000).

De Waal (2006:181) builds his argument for the origin of morality on the continuity between human social instincts and those of apes, our closest related species, and it is clear for him that morality elaborates upon pre-existing tendencies. The main ingredients of a moral society do not include religion, since it comes from within (De Waal 2013:300). Humans have the emotions of a social animal, particularly a mammal, which is affected by the distress of others. This leads to levels of altruism far in excess of what gene-centric theories predict (De Waal 2013:302). De Waal disagrees with anyone who pits evolution against morality. If humans the world over develop a sense of right and wrong, one of their deepest desires, according to De Waal (2013:302), must be to live in a moral world. Morality does not go against human nature and our

desires are not all bad. We, as a group of animals, share a background with other primates and therefore we value social connections (De Waal 2013:302). Without this background, we would never grasp religion's preaching about virtue and vice. According to De Waal (2013:302), we are only receptive to religious virtue and vice as a result of our evolved grasp of the value of relationships, the need for trust and honesty, the benefits of cooperation, our sense of fairness and so on. Morality arose first, then modern religion became attached to it (De Waal 2013:302). The larger religions did not give us the moral law; rather they were invented to encourage and promote it. De Waal (2013:303), however, does not minimize the role of religion, but is clear in his opinion that religion is not the wellspring of morality.

De Waal (2013:303; 2014:185) labels the separation between "is" and "ought" an intellectual torture which vexes any debate about moral evolution: "If the thought is that animals are mere 'wantons', lacking control over the impulses that nature has given them, we are on the wrong track" (De Waal 2013:303). Animals, like humans, favour certain outcomes and react with violence or fear to any abnormality. Although it sometimes may seem like it, animals cannot merely do what they want. Bonobos, for example, face many expectations about their conduct, which others will not hesitate to remind them of (De Waal 2013:303). Their values are not altogether different from those underlying human morality, even if bonobos lack notions of right and wrong that transcend their personal situation. They, similar to humans, strive to obey social rules, to fit in, to empathize with others, to object to unfair arrangements and amend broken relationships (De Waal 2013:303).

According to De Waal (2013:304), the major challenge in the search for a better understanding of the origin of morality is to move forward, beyond religion and especially beyond a top-down morality:

> Our best known "moral laws" offer nice post hoc summaries of what we consider moral, but are limited in scope and full of holes. Morality has much more humble beginnings, which are recognizable in the behaviour of other animals. Everything science has learnt in the last few decades argues against the pessimistic view that morality is a thin veneer over a nasty human nature. On the contrary, our evolutionary background lends a massive helping hand without which we would never have gotten this far.

De Waal (2006:181) refers to a recommendation made by Wilson (1975:562) more than three decades ago: "the time has come for ethics to be removed temporarily from the hands of philosophers and to be biologicized." De Waal (2006:181) argues that currently we seem to be in the middle of this process. Philosophers, for example, are not pushed aside; rather they are included, so that the evolutionary basis of human morality can be clarified from a variety of disciplinary angles. He (De Waal 2006:181) adds:

> To neglect the common ground with other primates, and to deny the evolutionary roots of human morality, would be like arriving at the top of a tower to declare that the rest of the building is irrelevant, that the precious concept of "tower" ought to be reserved for its summit.

On the question, "if animals are moral?" De Waal (2006:181) simply concludes that they inhabit several floors of the Tower of Morality. Denial of even this modest proposal can only result in an impoverished view of the structure as a whole.

De Waal's perspective on the origin of morality has received ample critique from well-known scholars of morality, such as Christine Korsgaard, Peter Singer, Philip Kitcher, Richard Joyce, and Robert Wright, to name a few. The opinions of these scholars are mainly focused on two of De Waal's strongest views, which are present in almost all of his publications on morality. This includes his opinion on the veneer theory and the opinion that "morality [is] a direct outgrowth of the social instincts that we share with other animals" (De Waal 2006:6).

As mentioned by Joyce (2010:ad loc.), De Waal is an unparalleled source of rich first-hand primatological data, arguing convincingly that humans show continuity with other apes regarding empathy, reciprocal relations, consolation behaviour and peace making. Yet De Waal admits these "building blocks" are "by no means sufficient" (De Waal 2006:20) for morality and he discusses two further levels of morality: rule enforcement for the community's good, and disinterested moral reasoning. De Waal, however, does not address the issue of whether this third, uniquely human, level is a distinct innate adaptation.

All of the above-mentioned commentators who critique De Waal's views agree that the veneer theory in its suggested form must be rejected, but they also redefine it in a

more elaborate form and introduce crucial distinctions that cut across the divide between De Waal's naturalistic approach and the veneer theory. De Waal classified Wright, who opens the discussion, as an advocate of the veneer theory. Wright (2006:96), however, prefers the term "naturalistic veneer theory" in an attempt to find a middle ground. Although Wright agrees that human morality is not a cultural overlay and that human moral intuitions are biologically rooted, he stresses the influence of emotions, which do not always function in favour of moral behaviour. Human beings may think that their moral judgements are purely rational, but they are often rationalizations of emotional imperatives.

Kitcher (2006:126) is convinced by De Waal's examples indicating that non-human primates are capable of psychological altruism. He does, however, regard the question of what types of altruistic dispositions those primates possess as crucial. Specifically, Kitcher (2006:127) raises awareness of the notion that attributing some altruistic dispositions to animals is not the equivalent of saying that animals act morally. Dispositions such as sympathy may be necessary for moral behaviour, but they are not sufficient and must be distinguished from genuinely moral sentiments. As Kitcher (2006:139) notes, De Waal is very clear about the starting point of our morality but seems unwilling to think much about its terminus.

Following the argument of Korsgaard (2006:117), the core of morality is grounding our actions on normative moral judgments. In other words, the core of morality is based on reasoning about what one ought to do. Consequently, she sees more discontinuity than continuity between the social behaviour of animals and the human-specific ability to submit one's actions to general normative principles. The social behaviour of animals is directed by desire, emotion and altruistic instinct. Therefore, like Kitcher, Korsgaard shifts the focus from the question of whether morality has its roots in nature to the issue of the core characteristics of morality itself. Korsgaard's (2006:104) attempt to defend the idea that there is a significant leap between chimp and human morality is both unnecessary and rather out of step with the available science. It is unnecessary, because De Waal has most certainly not denied that there are significant differences between humans and our closest relatives, both emotionally and, more important, cognitively. De Waal (2013:27), after all, states that he is "reluctant to call a chimpanzee a 'moral being'." This is a category De Waal reserves for humans, who

strive for a logically coherent system. Other animals are driven primarily by what affects them directly, but humans move toward universal standards in combination with an elaborate system of justification, monitoring, and punishment. Yet De Waal's point is that while there is a difference between chimpanzees or bonobos and humans, there is also a strong connection.

It is important to note that De Waal is not suggesting that human beings follow the bonobo's social system. Evolution has given humans their own way of handling these things, as De Waal (2013:104) points out. He does, however, insist that ideas like compassion and empathy are far from being unique to our species. "Morality predates religion," De Waal (2013:280) says, and adds that "we humans were plenty moral when we still roamed the savanna in small bands. Only when the scale of society began to grow and rules of reciprocity and reputation began to falter did a moralizing God become necessary." However, just because the distance is great, it does not invalidate De Waal's main point that the building blocks for human morality were put into place during a process of biological evolution.

De Waal's overall theoretical conclusions, however, are not as challenging as his specific scientific claims. On the one hand, he confines himself to arguing that human moral systems "underline pre-existing capacities", and that human morality "elaborates upon pre-existing tendencies" (De Waal 2006:181). On the other hand, he hastens to stress the "uniquely human complexity of a disinterested concern for others and for society as a whole" (De Waal 2006:55), as well as the ethical priority of human interests. This persistent emphasis on human uniqueness, moreover, does not seem sufficient to his respondents, who, with the notable and predictable exception of Peter Singer, feel the need to reaffirm the special moral worth of humans even more drastically. De Waal, however, not only responds to these comments, but also uses them to develop a layered model of human morality that emphasizes both similarities and dissimilarities between humans and other animals. Barbara King (2010:ad loc.) is clear about the fact that she does not agree with every word De Waal writes about a bottom-up morality. She does, however, agree (as does this research) that the core of De Waal's argument is accurate, both because he puts emotions front and centre in his account of human morality and because he explains how that morality emerges from animal roots.

De Waal's view on the origin of morality provides a framework that identifies the foundation of human morality in the social instincts of non-human primates. It also provides guidance on the levels of morality unique to humans. De Waal's work provides multiple perspectives on the topic of morality and should, in my opinion, become a core text for anyone studying the origin of morality. I will now turn to the perspective of Michael Tomasello.

## 4.3 MICHAEL TOMASELLO

Michael Tomasello is an American developmental and comparative psychologist. He is co-director of Max Planck Institute for Evolutionary Anthropology in Leipzig, and co-director of the Wolfgang Kohler Primate Research Centre in Germany. Tomasello is considered as one of today's most authoritative developmental and comparative psychologists. His major research interests are in processes of social cognition, shared intentionality, social learning, cooperation, and communication from developmental, comparative, and cultural perspectives.

In his fascinating publication, *The Natural History of Morality* (2016), Michael Tomasello proposes a two-step sequence in the evolution of human social life: "first, new forms of collaborative activity, and then new forms of cultural organization".[57] In this volume Tomasello (2016) attempts to illuminate how these new forms of social life structured the way that early human beings came to engage in moral acts, which either subordinated or treated as equal their own interests and the interests of others, even feeling a sense of obligation to do so. According to Tomasello (2016: Preface), this moral attitude or stance did not, and still does not, win out persistently in individuals' actual decision making. Even so, it does qualify them as moral decisions, whatsoever their outcome might be.

Tomasello's account of the origin of human morality is magnificently researched and built on convincing argumentation. His leading contribution is to broaden the notion of

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[57] *A Natural History of Morality* is a companion volume to a 2014 publication by Tomasello entitled, *A Natural History of Human Thinking.* Tomasello proposes the same two-step sequence in his 2014 publication. In the 2014 volume Tomasello made an attempt to define the kinds of thinking unique to certain species, which emerged from these new forms of social life.

reciprocity through insights from psychological research that explicate how early humans' socio-ecological circumstances could have made cooperation valuable in an evolutionary sense. The core thesis of Tomasello's study is that mutualistic cooperation, in which all involved parties benefit, provided the basis for the evolution of proximate psychological mechanisms that in due course formed the building blocks of human morality. Two socio-ecological changes, identified by Tomasello, made human beings interdependent and gave rise to the evolution of first joint and then later collective intentionality. The first crucial change, about 400 000 years ago, was the scarcity of individually attainable resources. A second key socio-ecological change was the population increase and consequently inter-group competition that began around 150 000 years ago. In the following section I will offer a brief discussion of Tomasello's account of a natural history of human morality. I will start with his interdependence hypothesis that draws on these notions of joint and collective intentionality.

## 4.3.1 Interdependence hypothesis

Tomasello (2016:1) developed an interdependence hypothesis in which he distinguishes between a morality of sympathy and a morality of fairness. Tomasello (2016:1) is of the opinion that cooperation is evident in nature in two basic forms. The first is in the form of altruistic helping, in which one individual sacrifices for the benefit of another. A second form of cooperation is a mutualistic collaboration, in which all interacting parties benefit in some way or other (Tomasello 2016:1). Tomasello (2016:1) further argues that morality is the uniquely human version of cooperation and it is evident in nature in two analogous ways. Firstly, morality is visible in nature on account of one individual that may sacrifice to help another based on self-immolating motives such as compassion, concern, and benevolence. Secondly, interacting individuals may try to find a way for all to benefit in a more balanced way based on impartial motives such as fairness, equality, and justice. Various classical accounts of moral philosophy emphasize this difference by contrasting a motive for the good (beneficence) with a motive for the right (justice). In several modern accounts of moral philosophy this difference is underscored by contrasting a morality for sympathy with a morality of fairness.

Tomasello (2016:1) explains that the morality of sympathy is the most basic, as a concern for the well-being of others is essential for all things moral. Tomasello (2016:1) continues that the evolutionary source of sympathetic concern is almost undoubtedly parental care of offspring, which is based in kin selection. In the case of mammals, this refers to everything from the providing of sustenance to their offspring through nursing to protecting their offspring from predators and other dangers. Taking this into consideration, sympathetic concern is shown by basically all mammals – at the very least to their offspring, but in some species for selected non-kin as well. Tomasello (2016:1) argues that the expression of sympathy is in general relatively straightforward. Some cognitive complexity may occur in determining what is good or bad for offspring or others. However, once that is determined, "helping is helping" (Tomasello 2016:2). The only complication is whether the sympathy that motivates the helping act is strong enough to overcome any self-serving motives involved. Acts of helping motivated by sympathetic concern are, according to Tomasello (2016:2), altruistic acts freely performed and these acts are in their purest form not accompanied by a sense of obligation.

Compared to the morality of sympathy, a morality of fairness is not so basic and straightforward. Tomasello (2016:2) is also of the opinion that such a morality of fairness might very well be confined to the human species. Tomasello (2016:2) explains the essential problem is that in situations requiring fairness, there is typically a complex interaction of the cooperative and competitive motives of multiple individuals. An attempt to be fair entails trying to achieve some sort of balance between all of these motives, and there are typically many possible ways of doing this based on different criteria. Tomasello (2016:2) explains:

> Humans thus enter into such complex situations prepared to invoke moral judgements about the "deservingness" of the individuals involved, including the self, but they are at the same time armed with more punitive moral attitudes such as resentment or indignation against unfair others. In addition, they have still other moral attitudes that are not exactly punitive but nevertheless stern, in which they seek to hold interactive partners accountable for their actions by invoking interpersonal judgements of responsibility, obligation, commitment, trust, respect, duty , blame, and guilt.

With reference to this explanation, it becomes clear that the morality of fairness is much more complicated than the morality of sympathy. Furthermore, the judgements involved in a morality of fairness typically carry with them some sense of obligation or responsibility. It is not just a matter of wanting to be fair to all parties concerned, but it is also that one *ought* to be fair to all concerned parties. Sympathy can be seen as pure cooperation, whereas fairness, according to Tomasello (2016:2), can be viewed as a "kind of cooperativization of competition in which individuals seek balanced solutions to the many conflicting demands of multiple participants' various motives."

Tomasello (2016) attempts to provide an evolutionary account of the emergence of human morality in terms of both fairness and sympathy. Tomasello (2016:2) builds his exploration on the assumption that human morality is a form of cooperation, and more specifically the form of cooperation that has developed as a result of humans' adaptation to new and species-unique forms of social interaction and organization. It is further assumed that human morality consists of the main set of species-unique proximate mechanisms[58] that allow human beings to survive and thrive in their especially cooperative social arrangements. Tomasello (2016:2) grounds this assumption in the notion that *Homo sapiens* is an ultra cooperative primate, and presumably the only moral one. Ultimately Tomasello (2016) attempts to specify how human cooperation differs from that of their closest primate relatives, and consequently he seeks to develop a credible evolutionary scenario for how such uniquely human cooperation gave rise to human morality.

Tomasello's (2016:3) evolutionary starting point for the history of human morality is the pro-social behaviour that is generally shown by great apes for those with whom they are in interdependent relationships, that is, kin and friends. Great ape individuals, as in all social species, living in the same social group depend on one another for survival, i.e. they are interdependent. Therefore it makes sense for them to help and care for one another. Additionally they are also known to form long-term pro-social relationships with specific other individuals in their group. These relationships are in some instances with kin, but they are also in other instances with unrelated group mates (Tomasello 2016:3; Seyfarth & Cheney 2012). In order for individuals to

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[58] These mechanisms are psychological processes of cognition, social interaction, and self-regulation (Tomasello 2016:2).

enhance their fitness for survival, they depend on these special relationships and therefore also invest in them.

Tomasello et al. (2012:673-690) provide an explanation for the evolution of uniquely human cooperation that focuses on how, starting with the great apes, early human individuals became all the more interdependent with one another for cooperative support. Many modern theories of the evolution of human cooperation are mainly focused on altruism. Alternatively, Tomasello et al. (2012:673) suggest that the species-unique forms of cooperation evident in humans derive from mutualistic collaboration with social selection against cheaters. This also applies to human beings' species-unique forms of communication, cognition, and social life. The interdependence hypothesis posits two main steps (Tomasello 2016:3; Tomasello et al. 2012:674). In the first step, human beings became obligatory collaborative foragers in such a way that individuals were interdependent with one another and consequently had a direct interest in the well-being of their partners. Tomasello et al. (2012:673) explain that in this context human beings developed new skills and motivations for collaboration not possessed by other great apes, i.e. joint intentionality, and they also helped their potential partners whilst they avoided cheaters. In a second step, as modern humans faced competition from other groups, these new collaborative skills and motivations were expanded to group life in general. As part of this new group-mindedness, according to Tomasello et al. (2012:673), humans created cultural conventions, norms, and institutions which are all characterized by collective intentionality, with knowledge of a specific set of these marking individuals as members of a particular cultural group. Human cognition and sociality therefore became all the more collaborative and altruistic as human individuals became all the more interdependent.

It is these two steps – first collaboration and then culture, both involving ecological circumstances – that forced early human beings into new modes of social interaction and organization (Tomasello 2016:3). Consequently, the individuals who succeeded best in these new social circumstances were those who recognised their interdependencies with others and acted accordingly. In the process they developed a sort of cooperative rationality. A new and unique set of proximate psychological

mechanisms were therefore the basis for the interdependencies of early humans.[59] According to Tomasello (2016:3), these new and unique mechanisms enabled individuals to create with others a plural agent "we." It was no longer a matter of what "I" must do, but rather what "we" must do to capture prey or how "we" should defend ourselves and so forth. Tomasello (2016:3-4) describes his fundamental argument on the history of human morality as follows:

> The central claim of the current account is that the skills and motivation to construct with others an inter-dependant, plural agent "we" – that is, the skills and motivation to participate with others in acts of *shared intentionality* (Bratman 1992, 2014; Gilbert, 1990, 2014) – are what propelled the human species from strategic cooperation to genuine morality.

The progression from strategic cooperation to genuine morality, as mentioned above, happened in two main evolutionary steps or processes, which will be briefly explored in the following section.

4.3.2 Joint Intentionality

The first key step occurred hundreds of thousands of years ago, when a change in the ecology forced early humans to forage together with partners in order to survive. As a result of this new form of interdependence, early human beings now extended their sense of sympathy beyond kin and friends to their collaborative partners. Early humans developed skills and motivations of *joint intentionality,* in order to coordinate their collaborative activities cognitively. Tomasello (2016:4; 2014) mentions that this enabled them to form a joint goal together and to know things together as partners in their personal common ground (Tomasello 2016:4; 2014). On the individual level, each partner had his or her own role to play in the specific collaborative activity, i.e. hunting. To achieve joint success there had to gradually develop a common-ground understanding of the ultimate way that each role had to be played. According to Tomasello (2016:4; see also Tomasello 2014) these common-ground role ideals can be viewed as the original socially shared normative standards. These ideal standards

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[59] It should be noted that the individuals of many animal species are interdependent in various ways, but they do not depend on this new and unique set of proximate psychological mechanisms as seen in human beings.

were impartial, which means that they specified what either companion must do in the role. The recognizing of the impartiality of role standards meant recognizing that the self and others, i.e. all involved, were of equal importance and status in the relevant collaborative enterprise.

All individuals most probably had bargaining leverage in the context of partner choice. Also in this context the recognition of self-other equality led to a mutual respect amongst companions. It was essential for companions to exclude free riders, and therefore there also arose the sense that only collaborative companions – and not free riders – were deserving of rewards or special treatment. Tomasello (2016:4), in agreement with Darwall (2006), explains that the combined result was that companions came to consider one another with mutual respect, as equally deserving second-personal agents.[60] This meant that these early humans had the standing to form with one another a joint commitment to collaborate (Tomasello 2016:4; see also Gilbert 2003). Such a joint commitment required of each companion to live up to his or her role ideal. Furthermore, both companions had the reasonable authority to reprimand each other for less than ideal performance. In other words, these individuals could use their joint agent "we" to make a joint commitment to self-regulate their collaborative activity. This joint commitment was created by means of the second-personal address of cooperative communication and assured that both companions would persevere through distractions and temptations until both received their fair rewards (Tomasello 2016:144). Consequently, deviations from ideal role performances were met with a second-personal protest, which respectfully requested that the deviator self-correct, which he or she then had to do in order to maintain his or her cooperative identity as a virtuous companion. An internalization of this process, according to Tomasello (2016:145) led each of the companions to experience a sense of second-personal responsibility to the other as well as a second-personal guilt when they did not live up to this responsibility.

It is plausible to argue then that early humans' sense of mutual respect and fairness with companions therefore derived primarily from a new kind of cooperative rationality.

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[60] Stephen Darwall is a contemporary moral philosopher best known for his work developing Kantian and deontological themes. He is the Andrew Downey Orrick Professor of Philosophy at Yale University.

In this new rationality it made sense for an individual to recognize his or her dependence on a collaborative companion, up to the point of surrendering at least some control of his or her actions to the self-regulating "we" created by a joint commitment. This "we," according to Tomasello (2016:4), was a moral force as both companions considered it legitimate, based on the notion that they had created it themselves specifically for purposes of self-regulation, as well as the notion that both saw their companion as genuinely deserving of their cooperation. Collaborative companions consequently felt responsible to one another to strive for joint success, and to neglect this responsibility was, basically, to repudiate one's cooperative identity. The result is, as argued by Tomasello (2016:145), two second-personal agents that self-regulate their collaboration by means of mutually impartial and agreed-upon normative ideas.

So, participating in joint intentional activities created an evolutionarily new and unique form of moral psychology. Participation in these activities meant the achievement of both the recognition of companions as equally deserving second-personal agents and the cooperative rationality of subordinating "me" to "we" in a joint commitment. Tomasello (2016:5) remarks that this new and unique form of moral psychology was not rooted in the strategic avoidance of punishment or reputational attacks from "they" (i.e. the other), but rather on a genuine attempt to behave virtuously in accordance with their "we." Tomasello (2016:57) argues that as soon as early human beings began conceptualizing themselves and their equivalent companion as a joint agent "we" – and consequently worrying about how "we" related both to "you" and to "me" – the rudimentary problems or challenges for which a morality of fairness was the solution were set. Therefore, the joint intentional activities of early humans were instrumentally rational in newly social ways. Interestingly enough, Tomasello (2016:57) asserts, there was nothing specifically moral about these activities, beyond sympathy. But the common-ground understanding of partner interdependent role ideals – as a forerunner to socially shared normative standards – and self-other equality – as a forerunner to impartiality – were cooperative seeds that would soon develop into early signs of morality. In order for these early signs of morality to actualize, individuals who were more thoroughly adapted for obligatory collaborative foraging, specifically, for the challenges of partner choice within a larger pool of potential collaborators were required (Tomasello 2016:57). Most importantly, early human beings had to learn to

create beneficial partnerships with others by evaluating and choosing good collaborative partners. This meant that these individuals had to anticipate others' evaluations and consequently act so as to become chosen partners themselves, and eventually they had to regulate and control their ongoing partnerships in suitable directions.

This was, according to Tomasello (2016:5), the start of "a normatively constituted social order in which cooperatively rational agents focussed not just on how individuals do act, or on how I want them to act, but, rather, on how they *ought to* act if they are to be one of 'us'." Ultimately, the outcome of all of these new and unique ways of relating to a companion in joint intentional activities added up for early human beings to a kind of *natural, second-personal morality.*

### 4.3.3 Collective intentionality

The second evolutionary step in Tomasello's (2016:5) hypothesized natural history of morality – beginning with the emergence of *Homo sapiens sapiens* approximately 150 000 years ago – was driven by changing demographics. As groups of modern humans started growing larger, they divided into smaller groups that were still unified at the tribal level. A tribal-level group, or a culture as Tomasello (2016:5) calls it, competed with other similar groups for resources. This gave rise to a distinctive group-mindedness in which individuals realized that they were more dependent on the group than the group was dependent on them, so individuals conformed to the group's structures (Tomasello 2016:145). Consequently it operated as one large interdependent "we," in such a way that all group members identified with their group and performed their "division-of-labour" roles intended for group welfare and survival. The members of a particular cultural group expressed special senses of loyalty and sympathy towards their cultural compatriots. Simultaneously, outsiders were considered to be competitors or free riders and therefore not deserving of any cultural benefits.

Tomasello (2016:5) further explains that in order for them to coordinate their group activities cognitively, as well as to provide a measure of social control motivationally, modern human beings developed new cognitive skills and motivations of *collective intentionality*. A collective intentionality enabled the creation of cultural conventions,

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norms and institutions and were based on *cultural* common ground. Conventional cultural practices had role ideals that were fully "objective" in the sense that everyone knew in cultural common ground how anyone that would be part of the group had to play those roles for collective success (Tomasello 2016:5). These role ideals represented the right and wrong ways to do things.

Early humans got to create their largest and most important social commitments. This was not the case for modern humans, however, as they were born into them. Most importantly, according to Tomasello (2016:6), individuals had to self-regulate their actions through the group's social norms, and when those norms were not abided by, it evoked criticism not only from affected persons but also from third parties. An individual's own sense of cultural identity was also considered to be in doubt should that individual fail in a purely conventional practice. On the other hand, violation of a moral norm, which is grounded in second-personal morality, indicated a moral rupture. Tomasello (2016:6) argues that moral norms were considered to be valid because the individual firstly identified with the particular culture and as a result assumed a kind of co-authorship of these moral norms. Secondly, the individual felt that his or her equally deserving cultural companions deserved their cooperation. Members of cultural groups therefore felt an obligation to both enforce and follow social norms as part of their moral identity. In order for an individual to then remain who one was in the eyes of the moral community, the individual was obligated to identify with the right and wrong ways of doing things.

A second form of novel moral psychology was created by participation in cultural life. Tomasello (2016:6) explains this as follows:

> It was a kind of scaled-up version of early humans' second-personal morality in that the normative standards were fully "objective," the collective commitments were by and for all in the group, and the sense of obligation was group-mindedly rational in that it flowed from one's moral identity and the felt need to justify one's moral decisions to the moral community, including oneself.

Ultimately, all these new ways of relating to one another in collectively structured cultural contexts gave rise for modern humans to a kind of *cultural and group-minded, "objective" morality.* At some point different culture groups began creating slightly different conventions, norms, and institutions. Consequently, Tomasello (2016:146)

asserts, groups with more effective versions outcompeted other groups,[61] with the process intensifying within civil societies with codified laws and organized religion.

Tomasello's (2016:146) interdependence hypothesis for the evolution of human morality is therefore about the proximate psychological mechanisms that emerged in support of early and modern human beings' newly interdependent and cooperative ways of life. The evolutionary starting point of these new ways of life was, of course, the already very social ways of life of great apes. Reciprocity, even though it may be an appropriate description of certain behavioural patterns in terms of a cost-benefit analysis, is not of much help in explaining human moral psychology (Tomasello 2016:147). It is, according to Tomasello (2016:147), much more helpful to focus on the dependencies among the actors involved and how the actors understand those dependencies. Dependency is the customary way that evolutionary biologists conceptualize interactions between different species in terms of various kinds of symbiosis; hence, the idea of interdependence merely adopts this particular way of conceptualizing things for conspecific individuals within a social group. Tomasello (2016:147) argues that this conceptualization of dependency avoids the various well-known problems of reciprocal altruism – especially the undermining effect of cheating – and it also provides a compatible framework for explaining the evolutionary origins of human moral psychology.

Tomasello (2016:152) highlights an important implication of his approach, namely that morality is not a domain of activity with an isolated evolutionary history. It is not a sort of "module," rather, it is a complex result of many different processes, each with its own evolutionary history. Tomasello (2016:152) therefore asserts:

> Human morality is the way that humans have come to interact with one another in the
> context of certain cognitive insights about how the world, including plural agency,
> works. Treating others as equally deserving as oneself in dividing resources fairly, or
> chastising oneself in the same way one would chastise others for violating a social

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[61] Tomasello (2016:146) explains this is due to cultural group selection, with gene-culture coevolution selecting for cooperative individuals.

norm, reflects a genuine morality emanating from the individual's perception of himself as equivalent to others in relevant respects, that is, from an impartial view.

In this way, Tomasello's (2016:153) account evades the image of natural selection favouring individuals who are motivated to subordinate or parallel their own interests to those of others evolutionarily. Instead, as Tomasello (2016:153) argues, individuals are acting with a kind of cooperative rationality which is based on an accurate recognition of social reality. This, then, is at least feasible on an evolutionary level because of the interdependent sociality of human individuals. Tomasello (2016:153) offers the following helpful diagram of his hypothesis:
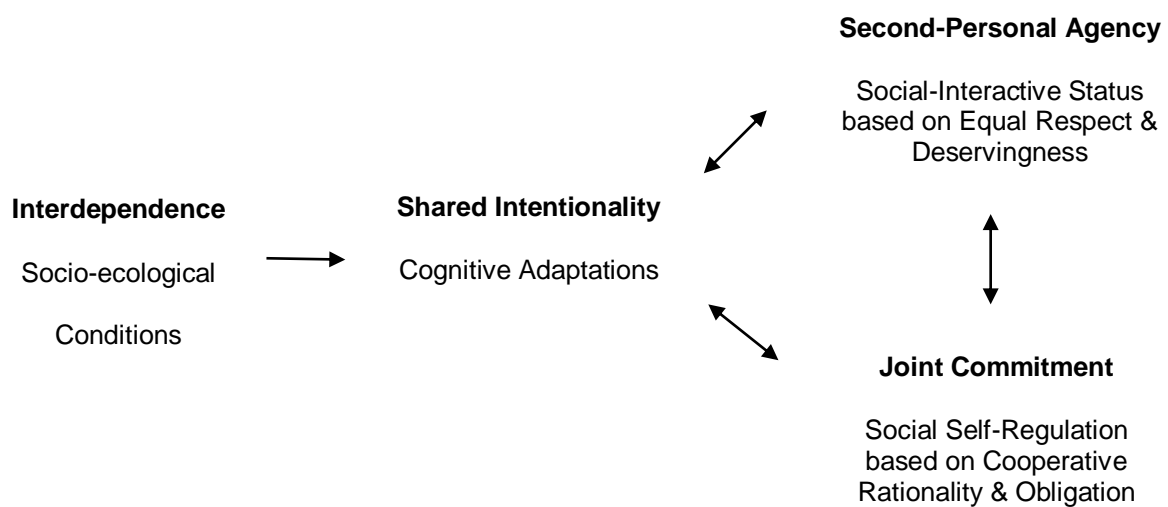


**Figure 1.** Overall theoretical structure of the interdependence hypothesis according to Tomasello (2016:153). Tomasello (2016:153) explains that for present purposes: *second-personal agency* includes cultural agency, *joint commitment* includes collective commitment, *cooperative rationality* includes cultural rationality, and *obligation* includes second-personal responsibility. *Interdependence* and *shared intentionality* are not moral phenomena, but when certain kinds of cooperative interactions take place in the wake of their evolution, the result is individuals who view one another with equal respect and deservingness, and who feel an obligation to live up to the social commitments they have made (or affirmed) with one another.

## 4.3.4 Summary

In Tomasello's account of the natural history of morality he maintains that the individual intentionality of the great apes, which is governed by the morality of sympathy, evolved into the joint intentionality evident in early human beings – governed by the morality of fairness. In turn, this joint intentionality developed into the collective intentionality of

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modern human beings today, which is governed by the morality of justice. Through these stages, Tomasello (2016:147) argues, "the human species transformed great ape strategic cooperation into genuine human morality." Two main transitions caused individual intentionality to develop into joint intentionality, and then later joint intentionality to develop into collective intentionality. The first noteworthy occurrence was an ecological change in Africa that forced early humans into obligatory collaborative food collection practices. Early human beings consequently became interdependent in a way that no other great ape had been before. The second noteworthy occurrence was the development of culture. With the creation of a cultural identity, humans formed very specific ideas of how individuals should be and act in general, and not just how temporary collaboration companions should be and act.

Tomasello (2016:6) mentions that one result of this two-step evolutionary process is that contemporary human beings are under the influence of at least three distinct moralities. The first type of morality is merely the cooperative tendencies of great apes in general, which is organized around a special sympathy for kin and friends. For example, the first person an individual will save from a burning shelter is, without any need for discussion, his or her child or spouse. A second form of morality is a joint morality of collaboration in which an individual has specific responsibilities to specific individuals in specific circumstances. For example, the following person one will save is the firefighting companion with whom one is currently collaborating, in a joint commitment, to extinguish the fire. Thirdly, modern humans function under a more impersonal collective morality of cultural norms and institutions in which all members of the cultural group are considered equally valuable. As an example, one would save from the catastrophe all other group mates equally and impartially, with possibly special attention to the most vulnerable among the group, e.g. children. One would perhaps even save all other persons, if one's moral community is considered to be humanity in general.

According to Tomasello (2016:7), the coexistence of these three different moralities, or moral orientations or stances, is not at all peaceful. The conflicts amid these moral stances are the source of many of the most confusing moral dilemmas that human beings face and which seemingly have no fully satisfactory solutions. Dilemmas such as: should one steal bread to feed one's friend or family? Should one keep one's

promise if it means harm to unknown others? On this notion, Tomasello (2016:7) asserts: "The bare fact of such unsolvable incompatibilities in the dictates of morality suggests a complex and not totally uniform natural history in which different cooperative challenges have been met in different ways at different times."

Naturally, the possibility that human beings function with a number of different, occasionally incompatible, moralities – and that these are due, at least partially, to processes of natural selection – raises the concern that evolutionary explanations may serve to undermine the whole idea of morality. But this need not be the case. Tomasello's (2016:7) point is that the ultimate causation involved in evolutionary processes is independent of the actual decision-making processes of individuals in pursuit of the realization of their personal goals and values. Tomasello (2016:7) offers the example of sex; the evolutionary purpose of sex is procreation but the proximate motivation for sex is largely other things. Consequently, the mere fact that the early human beings who were concerned for the welfare of other individuals and who treated others fairly had the most offspring undermines nothing in our own personal moral identity and decision making. We are able to speak a certain language only because of our evolutionary, cultural, and personal histories, but that does not determine precisely what we decide to say at any given moment.

In all, Tomasello (2016:7) mentions, it is worth simply marvelling at the fact that behaving morally is somehow right for the human species, i.e. contributing to human beings' unparalleled evolutionary success, as well as to each individuals' own sense of personal moral identity. A potential natural history of human morality therefore begins with our great ape ancestors and their sympathy for kin and friends. It proceeds through the narrative of some early humans who began collaborating interdependently with one another, with joint commitments and a sense of partner equality. Ultimately it ends with modern human beings, their culturally constituted social norms and an objectified sense of right and wrong. The following perspective I will engage with is that of theologian Celia Deane-Drummond.

## 4.4 CELIA DEANE-DRUMMOND

Celia Deane-Drummond is a professor of theology at the University of Notre Dame, Indiana. Deane-Drummond graduated in Natural Sciences from Cambridge University and obtained a doctorate in plant physiology at Reading University prior to two postdoctoral fellowships at the University of British Columbia and Cambridge University. She subsequently took up a lectureship in plant physiology at Durham University before turning her attention more fully to theological study, obtaining an honours degree in theology and then a doctorate in systematic theology from Manchester University. Her research interests are in the engagement of theology and natural science, including specifically evolution, ecology, animal behaviour and anthropology. She is also the director of the Centre for Theology, Science and Human Flourishing, at the University of Notre Dame.

Deane-Drummond (Deane-Drummond et al. 2016:132) begins one of her discussions on morality by asserting that there is a clear division among theologians in their quest to explore the origins of morality. Some theologians are of the opinion that evolutionary explanations are sufficient to account for a framework on which the further development of morality is based. Others argue that such an evolutionary basis is far less relevant for morality and therefore it can only be explained in a satisfactory way with reference to theological issues. Deane-Drummond (Deane-Drummond et al. 2016:132), however, attempts to demonstrate how wisdom can emerge from "the creative integration of work from both evolutionary theory and theology."

In order to comprehend the human moral sphere more adequately, Deane-Drummond (Deane- Drummond et al. 2016:132), posits specific dilemmas which arise when we are dealing with questions about the evolution of morality from our pre-human animal like ancestors. Deane-Drummond (Deane-Drummond et al. 2016:132) further proposes that the question about animal morality and human morality appears to have reached a dead end. This is due to the impossibility of arriving at firm conclusions

about both a definition of morality and what constitutes animal minds (Deane-Drummond 2016:132). [62]

Deane-Drummond (Deane-Drummond et al 2016:133) points to a few dilemmas in moral evolution. The possibility that morality might be a characteristic that, like intelligence, could evolve has crept into the evolutionary and philosophical literature almost by stealth. Consequently, Christian theologians, according to Deane-Drummond (2016:133):

> busy putting out fires created by conflicts over creationism and evolution, do not always seem to have observed the tendency for scientific narratives to take over what seemed like the last available bastion where theology might have something to contribute to a scientific discussion of humanity, namely, morality and ethics.

Unfortunately only a few theologians attend to this matter and attempt to elucidate the critical and constructive contributions theology can make to a discussion of evolutionary accounts of morality.

Making an effort to understand what is meant by the evolution of "morality" is extremely challenging (Deane-Drummond 2017:201). It is not always clear precisely what is meant by morality, and therefore, according to Deane-Drummond (2017:201), its appearance in evolutionary history will either be consistently vague or depend on prior assumptions. The term 'morality' is also often applied in a very loose way by biologists and Deane-Drummond (Deane-Drummond et al. 2016:133) argues it is used as an alternative to indicate agreed frameworks for types of actions that seem to benefit a given community. Consequently, biologists are reluctant to lay down the specific constituents this might entail, for example, forms of cooperation, patterns of altruism, consciousness, types of justice and peace making, recognizable virtues, etc. (Deane-Drummond et al. 2016:133; Deane-Drummond 2017:201). It, therefore, seems as if morality is used as the broadest possible basket into which these various characteristics get placed. The dilemma then is that it is not always clear what it might really mean to say that an agent is acting morally or not (Deane-Drummond 2017:201; Deane-Drummond et al. 2016:133). The exception, however, according to Deane-

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[62] Deane-Drummond mentions that this includes specific capacities and questions about levels of consciousness.

Drummond (Deane-Drummond et al. 2016: 133; Deane-Drummond 2017:201), would be if a given community agrees on particular rules and regulations that orient actions towards socially beneficial ends. This definition is most probably the lowest possible common denominator that can be agreed upon, even though such accounts of morality are not quite sufficient as they are 'thin' and do not reflect the huge diversity of moral norms across different cultures (Deane-Drummond et al. 2016:133). This does not imply that the discussions about morality in general are totally fruitless, but both Deane-Drummond and Arner (Deane-Drummond et al. 2016:134) agree that sufficient care needs to be taken on using these terms.

Deane-Drummond is convinced by Fuentes's critique of De Waal's argument that primate behaviour reveals relatively little about human morality (Deane-Drummond et al. 2016:135). Fuentes (Deane-Drummond et al. 2016:127) asks the following questions: "What if 'morality' is indeed a distinctively human pattern? What if mammalian social complexity creates processes and patterns that via human eyes seem to reflect our conceptualizations of justice and social norms – a basal morality?" Moral behaviour is often associated with normative codes. Consequently, when we see other animals behaving as if they shared some sort of normative codes of conduct, Fuentes (Deane-Drummond et al. 2016:127) argues, we are inclined to believe the prospect that this behaviour reflects a shared ancestral feature for the animals and us. But then again, is this an accurate interpretive framework?

Fuentes (Deane-Drummond et al. 2016:127) explains that other organisms, for example, non-human primates, also show behaviours that are predictable and therefore expected by other group members. In other words, these organisms have normative suites of behaviour which are patterns of behaviour that they obtain as members of the social group and that they expect other members to display.[63] By

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[63] Fuentes (Deane-Drummond et al. 2016:127) takes note of, but deliberately avoids, a discussion of what he calls "the common anti-evolutionary 'primitivist' approach." In using this approach humans look to other animals for evidence of past human states. Fuentes (Deane-Drummond 2016:127) mentions that this is inaccurate in that all organisms present today are fully contemporary. Even though humans might share some ancestral characteristics with other animals, humans and those particular animals have undergone distinctive evolutionary histories ever since their common ancestor. Therefore, according to Fuentes (Deane-Drummond et al. 2016:127), the shared ancestral patterns might be developed, expressed, or utilized in very different ways.

"expect" Fuentes (Deane-Drummond et al. 2016:127) intends to convey that, based on the experiences of organisms over their life course, they become aware of the patterns of other organisms and changes in behaviour related to their own actions. This, however, does not suggest a process of reflective consideration of those patterns. For Fuentes (Deane-Drummond et al. 2016:127) this is the core of these arguments for the notion of deep morality. We observe other animals acting in ways that seem to be potentially "just" or normative, and consequently we assume these animals, or the social systems in which they exist, have the basic elements of moral codes. Fuentes (Deane-Drummond et al. 2016:127) suggests that this interpretation misreads the data and illustrates a specific type of "anthropomorphism." What people observe might not be the precursors of moral behaviour in the sense that human beings consider, for example, conceptualized moral norms, rules, laws, and ideologies. Rather, according to Fuentes (Deane-Drummond et al. 2016:127), we notice that organisms have expectations in complex social relationships. The organisms, consequently, react according to the disruption of their expectations.[64] Fuentes (Deane-Drummond et al. 2016:127) mentions one should perhaps think of this as a kind of wisdom, rather than potential morality.

In the light of Fuentes's argument, Deane-Drummond (Deane-Drummond et al. 2016:134) asks what a discussion of other animals might contribute to debates on the evolution of morality. According to Deane-Drummond (Deane-Drummond et al. 2016:134), it is possible for human beings to "allow all kinds of creatures to be *morally considerable*, quite apart from whether such beings are thought to have any *moral agency*, and regardless of what definitions we might use to speak about morality." She continues to mention that at the core of all such discussions lies a tension between human continuities with other animals recognized in evolutionary narratives and an uneasiness about eliminating distinctions between humans and non-human animals (Deane-Drummond et al. 2016:134). Underneath this debate is a dilemma concerning how it can ever be possible to get into the mind of another creature?

For Deane-Drummond (Deane-Drummond et al. 2016:135) primatologists like De Waal build their arguments primarily on an assumption that bottom-up, emotion-based tendencies are a sufficient explanation of morality. Such an explanation does not

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[64] Fuentes offers some examples in support of his argument (Deane-Drummond et al. 2016:128).

require particular rules that are representations for what we might call "justice." Even De Waal's account of moral emotions assumes that animals have mental perceptions of fear, regard for others, unfairness aversion, risk aversion, etc. (Deane-Drummond et al. 2016:135). After my discussion of Deane-Drummond's view on morality, I will discuss her opinion on De Waal's Tower of Morality.

4.4.1 Inter-species in evolution and inter-species morality

Deane-Drummond is known for her work in which she has developed a theological anthropology that attempted to take account of the significance of the lives of other animals and evolution in human becoming. Deane-Drummond (2017:216) points to the importance of niche construction in any discussion on the evolutionary origins of morality. Deane-Drummond (2017:216) explains that such an approach would avoid any reductionist accounts of evolution in so far as:

> [r]ecognizing that the influences on natural selection are not about a given set of traits in relation to an external "outside" environment, but that in human evolution a complex suite of social characteristics emerges that are reciprocally and mutually conditioned by inter-relationships with other creatures and the ecological landscape – what scientists are calling the dynamic evolutionary "niche."

According to Deane-Drummond (2017:216), this is significant for an account of the evolution of morality, since human moral and religious life did not arise in isolation from other animal kinds; rather, it was parsed and shaped through human interactions with them. Deane-Drummond (2017:216; 2016:135; 2014; 2015a) labelled this kind of emergent morality as "*inter*-morality." By inter-morality Deane-Drummond (Deane-Drummond et al. 2016:135) means that interaction between species leads, at least partially, to decision making that has significant moral consequences. The relationship between morality and other animals has traditionally sought to find expression in specific ethical practices in relation to other animals, that is to say, a discernment of their moral status. Deane-Drummond (2014:122), however, argues that our understanding of human morality is illuminated in distinctive ways by closer consideration of the variety of lives of other social animals, including the prospect that at least some of them express forms of morality that are unique to their own social worlds. Considering this as a possibility, according to Deane-Drummond (2014:122), allows a more intense exploration of the origin of human moral capacities and

sentiments, understood in both evolutionary and theological terms. Rather than defining moral agency in Kantian[65] exclusive terms that restrict such a possibility to exclusively human agents, who have capacities for distinctive forms of reasoning, the definition of morality is now expanded so that those creatures that show deliberation and choice according to social norms, even if not abstracted choice, are potentially included (Deane-Drummond 2014:122). Therefore, in evolutionary terms at least, human morality is inter-morality and animal morality is also inter-morality in as much as the emerging rules of behaviour of a given species are in some sense or another entangled with that pertaining to the other species. Hence, Deane-Drummond (Deane-Drummond et al. 2016:136) explains that inter-morality denies that species B was an 'external' factor in an emergent morality most characteristic of A.

In support of her argument Deane-Drummond (Deane-Drummond et al. 2016:137; 2014) draws on ethnographic case studies on the relationship of humans with macaque monkeys in Indonesia, as explored by Fuentes (2012), hyenas in Ethiopia as explored by Marcus Baynes-Rock (2013), and elephants in parts of Asia as explored by Piers Locke (2013). In all cases Deane-Drummond (Deane-Drummond et al. 2016:137; Deane-Drummond & Fuentes 2014) is pleased to demonstrate that specific human behaviours and those of other animals shifted as a result of intertwined contact based on the model of human evolution known as community niche construction.

Deane-Drummond (Deane-Drummond et al. 2016:137) admits that the question of what exactly could be recognizable as clearly human moral behaviour was largely unexplored. Nonetheless, Deane-Drummond (Deane-Drummond et al. 2016:137) argues that if morality is broadly defined as those rules and regulations of behaviour and affections that orient the individual towards the good for that community, then morality in mixed specific groups is more complex than can be accounted for by

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[65] According to Johnson and Cureton (2018: ad loc.) in the *Stanford Encyclopaedia of Philosophy,* Immanuel Kant (1724–1804) argued that the highest principle of morality is a standard of rationality that he called the "categorical imperative" (CI). Kant characterized the CI as an objective, rationally necessary and unconditional principle that human beings must always follow despite any natural desires or inclinations they may have to the contrary. All specific moral requirements, according to Kant, are justified by this principle, which implies that all immoral actions are irrational since they violate the CI (Johnson & Cureton 2018: ad loc.).

thinking about a species in isolation. In line with Fuentes, Deane-Drummond (Deane-Drummond et al. 2016:137) is of the opinion that this also applies to humans in deep history. The definition of morality as applicable to social animals, for the purpose of this discussion, does not necessarily need to cohere with that of humans, if the presumption is that it is the interaction between our social worlds and theirs that is at stake (Deane-Drummond et al. 2016:137). Deane-Drummond (Deane-Drummond et al. 2016:138) offers the following explanation:

> Imagine that morality is on a scale from one to ten, with one being the least complex and ten being the most complex. Then even if humans in a ten morality interact with animals that have a one morality, that interaction is still significant. In the case of those animals with a one morality, there seem to be no rules in place for the particular 'good' of that species. Yet for humans, morality is complex, rational, self-conscious and perhaps even defined according to theological norms. Irrelevant to the case being made here is whether there are different types or styles of morality in different cultures and traditions, or even across species.

The argument made here is not merely that human beings are at the top of the pile in a Tower of Morality, as De Waal argues, and consequently putting humans in a position of supremacy. As an alternative, Deane-Drummond (Deane-Drummond et al. 2016:137) maintains that the morality of other animals, such as it exists or not, interacts with the increasing sense of what is collectively agreed upon and considered to be right behaviour in specific communities. These communities are themselves situated in diverse ecological, geographical, and cultural landscapes.[66]

Deane-Drummond (2017:216) argues that her thesis on inter-morality would be valid to some extent regardless of whether other animals do, in fact, have their own moral worlds and moral norms. It is, however, suggested by Deane-Drummond (2017:216) that it is worth considering whether this is indeed the case. Should animals indeed

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[66]These inter-species interactions do not only apply to animals. The interaction between a species and the different elements of the natural environment is crucial. The difference in connection with other animals is that they, including 'lower orders' such as viruses, insects, and so on, interact with and respond actively to humans and other creatures in a way that most plants do not (Deane-Drummond et al. 2016:138).

have their own moral worlds and norms, then inter-morality reflects a transversality of a different sort, between agents that are occupying different and distinct ecological niches, but at the same time, intertwining niches. With the start of domestication, Deane-Drummond (2017:216) explains, there is the total incorporation of two niches. The first is that of the domesticated creature and secondly that of the human, although one comes under the umbrella of the human niche, it resists straightforward incorporation. By this Deane-Drummond (2017:216) implies that the other animals' life and agency still affect the human in a way that impacts on the moral lives of those human beings who have chosen to bring those animals into their human worlds. Overall, Deane-Drummond (2017:217) argues, there has been a recollection of the long history of entangled lives of humans and other creatures, so much so that in our contemporary societies there is a tendency to reject animals that come to live in association with human spaces, even though, arguably it is as much their space as that of human beings.[67]

4.4.2 Notes on De Waal's Tower of Morality

Deane-Drummond (2017:217) offers a rather critical discussion on De Waal's Tower of Morality, which I explored in the first section of this chapter. Deane-Drummond (2017:217) begins by asserting that De Waal is a prolific author who has also "succeeded where others have failed in denting a popular paradigm that has ingrained itself into public consciousness, namely, that human beings are basically at root selfish and sinful." To this notion Deane-Drummond (2017:217) adds that most sensible theologians consider human beings as a mixture of good and bad tendencies, rather than being rooted in one disposition or the other. According to Deane-Drummond (2017:217), De Waal regards his role as a corrective one. In the light of the strong emphasis that is placed on the *viciousness* of animal natures, De Waal wants to present the other cooperative side. Consequently he wants to show that the cooperative tendencies present in other animal societies are "building blocks" for the

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[67] Deane-Drummond makes this point with reference to a point Marc Bekoff posits and develops forcefully in his publication, *Re-Wilding Our Hearts: Building Pathways of Compassion and Co-Existence* (2014).

human moral world. The repeated message from De Waal is that we can draw on what we observe in other social primates to gain insights into human behaviour.

Deane-Drummond (2017:219) doubts the scientifically justifiability of De Waal's case for building a Tower of Morality. De Waal's comparison between humans and social animals presupposes a link between them that, given how long ago the two lineages diverged, is not justifiable. Deane-Drummond (2017:219) points to Fuentes (2014b: ad loc.), who agrees with much of De Waal's arguments for detecting altruistic and other behaviours in bonobos and other primates. But Fuentes (2014b: ad loc.) concludes that this still does not say very much about the evolution of morality or what human beings are like. Fuentes (2014b: ad loc.) argues, given the millennia since humans and other primates had a common ancestor:

> The human lineage is characterized by a distinctive capacity to alter and shape our niche, by language, symbols, and meanings derived from more than the materiality of our social and ecological surroundings. Human moral systems do not need religion to exist, but they do need humans. In the end, bonobos cannot tell us very much about being human at all.

According to Deane-Drummond (2017:220), this does not imply that observations of bonobos and other social primates are not fascinating for humans to consider. It does, however imply the need for a high degree of caution about building a Tower of Morality.

From the perspective of moral theology there are also prominent difficulties in constructing a tower approach such as De Waal's (Deane-Drummond 2017:220). Firstly, a Tower of Morality suggests that humans are superior to other animals, in that humans' morality is of a higher rank at the top of a tower, while the morality, to the extent that it is present in other animals, is of a lower rank or a beastly kind. The legacy of these type of views reaches right back to the earliest Christian writers, and De Waal may not be aware that he is implicitly drawing on work from ancient traditions. These views have considerable contradictions in them, and their negative aspects are well known. The problems in this case then relate to the placing of humans as superior to other creatures, a view that De Waal seems to want to resist. Deane-Drummond (2017:220) argues that although De Waal is determined to recognize the significance of other animals, his view, ironically, leads in the direction of reinforcing models of human exceptionalism. In the Tower of Morality human beings are still on top. There

is another danger Deane-Drummond (2017:220) detects in the work of De Waal. In the past century essentialist narratives as part of genetic deterministic accounts of human behaviour did a lot of damage in promoting eugenics. De Waal's approach is considered far more sophisticated, because it is about the evolutionary emergence of complex systems of cooperation, rather than explicit traits that are purely biologically given. But De Waal still considers chimpanzee culture to be rooted in their biology, and in that respect Deane-Drummond (2017:220) is of the opinion that he is essentialist about their nature as well as human nature. This suggests that De Waal has developed an evolutionary ethic that can be categorized as ethical naturalism. In explaining her statement, Deane-Drummond (2017:221) refers to Robert Audi's (2013:21-39) argument that perhaps ethical naturalism is the only real option among philosophers today. But he is not talking specifically about evolutionary ethics. Deane-Drummond (2017:221) with reference to Audi (2013:21-39) goes on to explain:

> And evolutionary ethics is *realist* with respect to the psychological root of human action, as is clear from de Waal, but *anti-realist* when considering the ontological or normative basis for moral systems, making moral claims neither true nor false. For Audi a non-reductive naturalism means that a theologically orientated ethics is still possible, for goodness and obligation can still be connected with natural properties without being reduced to them.

This is not possible for De Waal, however, because the Tower of Morality ranks above other sources of morality, even though De Waal resists concluding with normative bases for morality. The tower also proposes emergent properties in the "higher" systems, consequently one-on-one morality is most characteristic of animals other than humans, but he believes that community concern is only very rudimentary in other animals (Deane-Drummond 2017:221). The rudimentary elements De Waal refers to involve things like females forcing a rock out of a violent monkey's hand. It is very easy for us to make comparisons with human interventions in unwanted male behaviour. So while morality is bottom-up, rooted in visceral emotions, it is still according to Deane-Drummond (2017:22) ultimately *normative,* and De Waal argues that social animals strive for harmonious relationships. There seems, then, to be an inner sense about how things ought to be; therefore, when fighting does break out, there are almost immediate attempts to repair the damage done. So, while De Waal insists on a bottom-up view of morality, he still adopts a principled view that comes close to one that is

fully realist (Deane-Drummond 2017:222).[68]  The danger in arriving at conclusions about the evolution of human morality from observations of primate behaviour is that it doesn't give proper consideration to early hominin evolution. Such an account also do not pay attention to the social and biological divergence between human beings and social animals. This leads, according to Deane-Drummond (2017:222), to another reason for De Waal's Tower of Morality not being a viable perspective, as such an account turns what seem like analogies or convergences into implied homologous relationships. Therefore, even though De Waal recognizes the differences between humans and primates, he still assumes that they both have the same basis for morality.

Deane-Drummond (2017:222) does believe that De Waal is correct to consider the social lives of animals as being significant for human morality, but she believes it is significant for other reasons than those posited by De Waal. However tempting it might be to draw conclusions on human moral behaviour from animal behaviour, social primates do not show any precursors for human moral behaviour. Social primates do, however, demonstrate to us how remarkably sophisticated their social lives have become. As Deane-Drummond (2017:223) mentions, social primates have converged in certain respects with human moral systems, even though there are both clear similarities and differences in their derivation. The convergence is due to the systems in place that promote cohesive communities. Deane-Drummond (2017:223) does, however, make clear that this does not indicate that morality in human societies is derived purely from abstract principles. Rather, the emotional lives of humans do register with those of other animals, and as far as can be proven, we share at least some of the same tendencies. It is, however, difficult to assess how far these tendencies are also evolved, but as Deane-Drummond (2017:223) states, the theological tradition has at least always allowed for humanity to be considered both a living creature and a living animal. Human beings are animals, and therefore

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[68] Deane-Drummond refers to the following statement by De Waal (2013:228): the moral law is not imposed from above or derived from well reasoned principles; rather it arises from ingrained values that have been there since the beginning of time. The most fundamental one derives from the survival value of group life. The desire to belong, to get along, to love and be loved, prompts us to do everything in our power to stay on good terms with those on whom we depend. Other social primates share this value and rely on the same filter between emotion and action to reach a mutually agreeable modus vivendi.

sentience,[69] caring for the young, and reproduction are all features of human existence.

Consequently, Deane-Drummond (2017:223) posits the question of whether any of this should matter for morality. According to the natural law tradition, the answer has always been "yes" to that question. On the other hand, divine command theories have always answered equally and firmly "no." The mere fact that natural law theory has become secularized and even politicized indicates that there are respectable arguments for interlacing biological aspects of human existence into how humans perceive themselves as moral agents. Deane-Drummond (2017:223) refers to Alasdair MacIntyre (1999), who has termed this reminder of human animality the capacity for dependence. Following this way of thinking, it is evident that humans are dependent, rational animals, learning their *dependence,* from their shared social life with each other and other creatures, and learning their particular form of *rationality* from being schooled in the ways of virtue. It is the failure of De Waal, then, to admit to the importance of rationality in human morality that results in his case ultimately being one that is derived from the authority of his experience rather than the authority of evolutionary science as such (Deane-Drummond 2017:223). Consequently is it possible to criticize De Waal, as Fuentes (2014b: ad loc.) does, for not being sufficiently *evolutionary* in his thinking. Deane-Drummond (2017:223) feels it is also possible to criticize De Waal, as shown in this section, for deriving fundamental norms about human morality from his personal experience with primates, with the allure of such authentic experience.

### 4.4.3 Concluding remarks

Deane-Drummond (2016:140) posits the question of whether accounts such as hers, of inter-species interactions, are problematic for Christian theology? Are they challenging either human uniqueness or the possibility that the perfected moral life is enhanced through obedience to divine commands? Deane-Drummond (Deane-Drummond et al. 2016:140) suggests that theologians have a great deal to gain from the insights of ethnographers working at the human-animal interface. This work challenges traditional accounts of human exceptionalism that in reality exclude the

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[69] The ability to perceive or feel things.

importance of other animals and are indebted to Enlightenment dualisms. But such dualism is not essential to Christian thought. The "Ancients," as Deane-Drummond (Deane-Drummond et al. 2016:140; 2014:3) labels classic writers such as Thomas Aquinas and his teacher Albertus Magnus, were prepared to take the scientific observations of their day into account and weave them into their theology. Aquinas was also willing to admit that other animals, and certainly other parts of creation, could act as moral exemplars for human beings, and therefore Aquinas was aware of the complex responsiveness possible between different creatures (Deane-Drummond et al. 2016:140).

The challenging judgements to make then, according to Deane-Drummond (Deane-Drummond et al. 2016:140), concern how much epistemological weight to put on to naturalistic accounts of the moral life in comparison with theological traditions and the relative significance of philosophy in untangling the confusions that may arise. One option, in spite of the dangers of fragmentation, may be to resist attempts to speak of morality as if it were possible to define it holistically. Instead, Deane-Drummond (Deane-Drummond et al. 2016:140) suggests that we could take into account specific sub-elements such as compassion, justice, wisdom, and other virtues, along with duties, responsibilities, rules, goodness, etc.

Deane-Drummond (Deane-Drummond et al. 2016:149) concludes that human reason is important for human morality, and she acknowledges the significance of philosophy and theology interrogating current debates on the evolution of morality. She also believes theological interpretations of the natural world as creation are important and have been neglected in the past. In agreement with Fuentes and Arner, Deane-Drummond (Deane-Drummond et al. 2016:141) agrees that the study of the evolution of morality is muddled in the literature and it would be better to separate elements of what such morality entails and investigate those individually. Deane-Drummond and Fuentes both argue that morality, like other aspects of human behaviour, needs to be situated in a broader understanding of evolutionary theory, such as community niche construction. Even though broader definitions of morality are more inclusive, one should remember that they are less incisive philosophically as the breadth of meaning lacks clarity about scale, scope, and universality.

## 4.5 CONCLUSION

The perspectives of the scholars in the different fields explored in this chapter play an essential role in the investigation into and the understanding of the origin of morality. An overview of the modern discourse on the origin of morality demonstrates the necessity of combining different perspectives, as no single perspective offers a comprehensive explanation of the origin of morality.

De Waal, the first perspective I explored, advocates a bottom-up view of morality. He bears in mind the fact that everything started simple, which is true for our bodies, minds and behaviour. Humans do not decide to be empathetic, they just are, according to De Waal. With his bottom-up view of morality De Waal emphasizes that the moral law is not imposed from above or derived from well-reasoned principles. It does, however, arise from deep-rooted values that have been there since the beginning of time. It is, however, on the group level that humans can be distinguished from other non-human animals. Human beings are intensely aware of the general well-being of the group, and therefore certain normative regulations were set in place to benefit the group. It is our very capacity for imagination, broadly discussed in Chapter 2, which allows individuals to evaluate the impact of certain behaviour on the greater good for the society. De Waal also reminds us that morality need not only be applied to within-group contexts, even though morality without any doubt evolved for within-group reasons. From the exploration of De Waal's work it is clear that a biological perspective on human morality is necessary. He believes that the main prerequisites or "building blocks" for morality are empathy and reciprocity. Mutual exchange and emotional interest in other people is what characterizes a moral society. In the light of the critique on De Waal's perspective on the origin of morality, I think it is important that we keep in mind that De Waal is not making an argument for animals as moral beings. De Waal does not at all claim that even chimpanzees possess morality. He does, however, maintain that human morality would not be possible without some proto-moral emotional building blocks that are noticeably at work in chimpanzee and monkey societies (Van Huyssteen 2017:7). The presence of consolation and empathy in primates and humans is what constitutes De Waal's notion of proto-morality. Empathy, which is evident in especially chimpanzees, is required in social living. When De Waal (2013:131) then argues that empathy connects bodies with bodies, he directly links

the notion of emotional contagion – a process which requires imagination, conscious reasoning, and analysis – with empathy. Human beings do not at any point decide to empathetic, they just merely are.

Tomasello offers possibly one of the most detailed accounts to date of the evolution of human moral psychology. Tomasello reconstructs how early humans gradually became ultra cooperative and, eventually, a moral species. His account is based on extensive experimental data comparing great apes and human children. For Tomasello, in short, there were mainly two evolutionary steps, of which each was founded on a novel way for individuals to act together as a plural agent "we." With the rise of ecological challenges that forced early humans to forage together collaboratively, or else they would die, the first step occurred. Humans developed cognitive skills of joint intentionality in order to coordinate these collaborative activities. These joint intentionality skills ensured that both partners were aware of the normative standards governing each role. Individuals, in order to reduce risk, can make a clear joint commitment that "we" forage together and also share the spoils or rewards together as equally deserving partners. This is grounded in a shared sense of trust, responsibility, and respect. The second step, for Tomasello, took place as human populations grew larger and the division of labour became all the more complex. Distinctive cultural groups occurred that demanded loyalty, conformity, and cultural identity from members. Tomasello explains that in becoming members of a new cultural "we," modern human beings evolved cognitive skills of collective intentionality. The result was culturally created and objectified norms of right and wrong that all members in the group regarded as valid morals for anyone who would join the group and become one of "us." This two-step process resulted in contemporary humans having both a second-personal morality for face-to-face engagement with individuals and a group-minded "objective" morality that obliges them to the moral community as a whole.

Deane-Drummond is of the opinion that a creative integration of the work from both theology and evolutionary theory can lead to a more comprehensive understanding of the origin of morality. Deane-Drummond first of all raise the concern that the term 'morality' is often applied very loosely and vaguely by biologists in contemporary accounts. It is frequently used as an alternative to indicate agreed outlines for types

of actions and behaviour that appear to benefit a given community. The quandary then occurs that it is not always clear what is really meant by characterizing behaviour as moral or not. Consequently, the necessary caution needs to be taken in using these terms.

Deane-Drummond is known for her development of a theological anthropology that seeks to take into account the implication of the lives of other animals in the evolution of human becoming. In order to avoid reductionist accounts of evolution, Deane-Drummond argues that niche construction – as discussed earlier in this study – is necessary in any discussion on the origin of morality. The mere notion that human moral and religious life did not happen in isolation from other animal kinds, points to the significance of a niche construction perspective on the evolution of morality. Deane-Drummond developed the notion of inter-morality, which suggests that interaction between species results, at least partially, in decision making that has significant moral consequences. For Deane-Drummond, closer attention to the variety of lives of other social animals can illuminate our understanding of human morality. In evolutionary terms then, in Deane-Drummond's argument, both human morality and animal morality are inter-morality if the unfolding guidelines of behaviour of a given species is entangled with that of another species. Deane-Drummond therefore upholds that the morality of other animals, to the degree to which it exists or not, interacts with the growing sense of what is collectively considered to be right or wrong behaviour in specific communities. This is an alternative to De Waal's notion of the Tower of Morality. Deane-Drummond refrains from positing humans in a position of supremacy such as situated on the top of a Tower of Morality. If animals do actually have their own moral norms and worlds, then Deane-Drummond argues that inter-morality reflects a different kind of transversality between agents that are occupying different ecological niches, but simultaneously intertwining niches. Deane-Drummond further suggests, and I agree, that theologians have a lot to gain from insights derived from the work on the human-animal interface. Such perspectives challenges the traditional notions of human exceptionalism, and are in inclusive towards the importance of other animals. Such interdisciplinary accounts still remain challenging. The amount of epistemological weight to place on naturalistic accounts of the moral life, compared to the epistemological weight of theological traditions, is one of the most

challenging judgements to make. It is also in his regard that Deane-Drummond emphasizes the importance of philosophy in unravelling the confusions that may arise.

Taking into account all three diverse perspectives on the origin of morality, I am convinced that an interdisciplinary approach is necessary. There are some points on which all three scholars are in agreement, and some points on which they disagree. The interdisciplinary dialogue with De Waal, Tomasello, and Deane-Drummond on the origin of human morality presents a persuasive argument that evolution by natural selection can indeed explain the innate human sense of moral awareness, which is the human tendency to think in normative terms. Evolutionary explanations of this moral awareness can, however, not explain human moral judgements. They also fail to justify the truth claims of any of the human moral judgements. How and why humans make moral judgements can only be illuminated on the level of the more interactive cultural evolution that is part of niche construction, a point which Deane-Drummond also supports. Along with a niche construction perspective, the historical deep dependence of human moral codes in religious and political conventions should be taken into account. In line with Van Huyssteen (2017:10), I believe that this argument can help us to avoid the alleged genetic fallacy – the mistake of thinking that the evolutionary origins of human moral awareness unavoidably explain away, and make impossible, the possibility to hold onto moral truth. I feel that acknowledging this distinction is important for our consideration of the relation of this study to ethics, and in this case Christian ethics. This study mainly focuses on the descriptive understanding of morality. Questions regarding human moral judgements and reasoning are related to the normative understanding of morality.

In the next chapter I will integrate the arguments offered in the previous chapters and seek to explore how the notions of imagination, religion and morality can help as understand the human person more fully. Most importantly, I will ask how such a more comprehensive understanding influences our understanding of ethics, and in this case Christian ethics. I will pursue this explorative journey with the help of the work of two philosophers, Paul Ricoeur and Roger Scruton, who might offer us possible bridge theories to connect the human capacity of imagination, religion and morality.

# CHAPTER 5

# TOWARD AN INTERDISCIPLINARY UNDERSTANDING OF THE ORIGIN OF MORALITY AND RELIGION

In the previous chapters I pursued in detail the research question of whether the history of human evolution could provide us with answers to important theological questions regarding human morality and religious awareness. I specifically focused on whether evolutionary thought can be constructively appropriated to interdisciplinary Christian theology and ethics. The evolution of imagination, our religious disposition, and morality, all of which are crucially important aspects of human personhood were explored. In line with Van Huyssteen (2006, 2009, 2011, 2013), I want to argue that in the history of hominid evolution we find surprising answers to the enduring question of what it means to be human. Furthermore, I would like to argue that this quest to establish a more comprehensive understanding of the human self, through specifically the aspects of imagination, religion, and morality, is of the utmost importance in any conversation on being human and the relation of this to ethics. Interdisciplinary accounts of these crucial aspects of being human are challenging. I believe that within the discipline of philosophy we might find some point of connection that could bridge the gap between these diverse theories and theology. In this chapter I will offer a short overview of the study up until this point. I will proceed to offer a possible bridge theory between the various perspectives as presented in this study. The work of French philosopher Paul Ricoeur (1913 – 2005) and British philosopher Roger Scruton (1944 - ) will be the focus.

This interdisciplinary study commenced with a brief overview of evolutionary theory and its perspective that would be featured most prominently in the current exploration. The search for a more comprehensive understanding of human imagination, our religious capacity, and morality is conducted against the background of the really ground-breaking notion in evolutionary science, namely niche construction theory. This introduction to the study as a whole is devoted to a description of evolutionary

theory and especially niche construction theory, as well as a short overview of the evolutionary history of the modern human species, also known as *Homo sapiens sapiens.* As is evident in the discussion of Chapter 2, there is clearly much more to evolution than simply the inheritance of genes. An interactive perspective on evolution is necessary, which underplays any explicit prioritisation in inheritance systems and consequently requires a purposeful move away from approaches that are limited to either social or biological focuses (Van Huyssteen 2017a:4). In this line of thought, 'evolution as construction' is the notion that evolution is never just a matter of a biologically developing organism. Rather, as Van Huyssteen (2017a:4) puts it, it is a matter of organism-environment systems interacting and changing over time in a dynamic interactive process of niche construction as a substantial evolutionary force alongside natural selection. This is clearly extremely important for an understanding of human evolution. Almost all anthropologists would agree that human beings are constructed by, and also involved in the construction of, contexts that are at once physiological, historical, behavioural, social and symbolic (Van Huyssteen 2017a:4). Following this view, then, Fuentes (2009:15, cf. Van Huyssteen 2017a:4) argues, it is crucial to see human behavioural evolution primarily as a system evolving, and not merely as a set of moderately connected or independent traits that are evolving. Niche construction is therefore a central factor in human behavioural evolution. In this view, then, any responsible discussion on the evolution of human beings should be conducted within a framework of niche construction. It is for this reason that niche construction has played a key role throughout this study. If we look at the short evolutionary history of becoming human (as presented in Chapter 2), it becomes clear that during the 7 million years of hominin evolution, there was a growing sophistication of social niche construction, social traditions, dynamic social groups, and simple tool manufacture and use. One can see that hominins took the primate creative spark, as Fuentes (2017a:23) calls it, to a whole new level, as they were making tools rather than just using them, as well as increasing cooperation and social learning. In order for them to accomplish all this, they had to use their developed capacity for imagination to envision different and new outcomes.

The greater part of Chapter 2 is devoted to an in-depth discussion on the evolution of the human imagination, in which the perspectives of Steven Mithen and Agustín Fuentes were the main focus. For Fuentes (2015a: ad loc.), imagination is the capacity

to exist in a perceptual reality in which everything – trees, colours, foods, daily routines, social relationships, etc. – is pervaded with meaning, which goes further than the material elements, further than the specific actions, further than the tangible at-hand experience. As early as 300 000 years ago, ample evidence of this capacity for imagination can be found, which includes beautiful symmetrical stone tools that were never used, lines drawn on pieces of ochre, and so forth. However, evidence of cave paintings, carved figures, shell necklaces and murals, extending back over 120 000 years, is available, all of which portrays a complete human imagination. Our current ability to develop a metaphysics which, in turn, facilitates structured religious beliefs, is grounded in the use of imagination and the infusion of symbolic meaning into the world by genus *Homo* during the late Pleistocene (Fuentes 2014a:249). Consequently, this framework of meaning and accompanying imagination is a system that advanced a variety of other meaning-laden and symbolic aspects of human behaviour and experience, which are essential components of the human species' current niche and existence. Over time, humans became all the more dependent on innovation, cooperation, and creativity in order for us to survive and thrive in this world. Our sharing of ideas, our abilities to communicate these ideas and our capacities to manipulate the world around us created a new context, along with a merging of processes not evident in other organisms. This produced one of the most distinctive features of humanity, our imagination (Fuentes 2015b; ad loc.). In the context of human niche construction, the human capability of imagining responses to pressures – material, perceived, existential, etc. – and to transform those imaginings into material items or actions, has become a key tool in evolutionary processes (Fuentes 2018a:164).

Fuentes reminds us that the genus *Homo* faced countless ecological and social challenges by the late Pleistocene. Considering this and the complexity of their niche, it can be argued that the capacity to deploy cognitive and behavioural processes that incorporate a sense of imagination and hope could increase the prospect of innovation and successful responses to evolutionary challenges. For Fuentes, then, this notion – combined with contemporary work exploring the role of social networks, compassion and meaning making, the connection between stone tool manufacturing and ritual, the early appearance of "art" and symbol in the archaeological record, and the ongoing affirmation that humans are indeed a symbolic species – can provide an evidential

context in which the emergence of this semiotic, temporally complex, and imaginative reality for the human genus can be seen.

The second perspective on the origin of the human imagination that I explored was that of Steven Mithen. Following Mithen (2007:5), seven main steps can be identified in the process of the evolutionary history of the distinctive creative imagination of humans. Each step is a gradual evolutionary process rather than a discrete event. At the same time each step is a process that often provided the needed foundation for the following step towards the creative imagination.

The first step is the development of *a theory of mind* approximately 6.0-1.8 million years ago, which is generally understood as having the capacity to know that other individuals have thoughts and beliefs that are different from one's own. Mithen (2007:7) deploys Dennet's (1966) 'order of intentionality' as a useful characterization of the varying theory of mind capacities within and across species. Against this background chimpanzees would be regarded as having one, or at the very most two, orders of intentionality, whilst modern human beings routinely engage in thought processes that require four and sometimes even five orders of intentionality. Mithen is convinced that the development of a theory of mind, possibly up to three orders of intentionality, was a central feature of the combination of interactions during the early Pleistocene.

Mithen's second step in the development of the human imagination is the evolution of the human life history, roughly 2.0-0.1 million years ago. At the outset of this discussion Mithen reminds us that there are several crucial points of dissimilarity between the human life history and the history of modern apes. First of all is the phenomenon of 'secondary altriciality', which refers to the combination of the period of relative infant helplessness after birth – during which brain size continues a foetal rate of growth for another year – and a long gestation. 'Childhood' is the second developmental phase, and it is situated between weaning and the ability to feed and protect oneself. The third phase is the adolescent growth spurt, and fourth the extensive post-menopausal lifespans that are unique to the human species. Death follows shortly after the loss of reproductive capacity for chimpanzees and gorillas. Mithen argues that each of these life-history phases respectively played an important role in the evolution of the fully developed human imagination. For example, it seems like the evolution of the fully

modern human life-history pattern with an extended period of childhood is exclusive to *Homo sapiens.* Mithen (2007:11) suggests that this might have a causal relationship to what appears to be the distinctive presence of symbolic thought and language in *Homo sapiens.* This might also be the case with the generally greater capacity for imagination in the human species in comparison to all of our hominid ancestors and relatives.

The third step is the development of domain-specific intelligences about 2.1-0.25 million years ago. The human creative imagination is often considered as the ability to combine unrelated types of knowledge and ways of thinking in order to produce new ideas and insights. The concept is closely linked to Mithen's (1996) concept of cognitive fluidity. This is in the first place only possible for humans if their minds are in possession of ways of thinking and ideas to combine. In this regard, a major step in the evolution of the human imagination was the existence of mental modules or cognitive domains devoted to specific types of thought and behaviour, which one can say provided the 'raw material' for the process of imaginative thinking (Mithen 2007:12). One of these cognitive domains is the theory of mind. With the evolution of specialized mental modules for interaction with the physical, natural, and social worlds, Early Humans acquired what Mithen (2007:14) calls a 'domain-specific' mentality. With reference to imagination, the domain-specific mentality of early *Homo* would have enabled imaginative thinking within cognitive domains, but not across these different domains.

The fourth step in the evolution of the human imagination is the origin of language and music, approximately 250 000-100 000 years ago. Mithen (2007:16) refers to five key characteristics of early human communication. This communication system was holistic, manipulative, multi-modal, musical, and mimetic. It provided Early Humans with a complex and sophisticated system, which was compatible with their evolved large brains and vocal tracts. However, two main features of modern human language – words and grammatical rules – were not available in this system. These five characteristics of the Early Human communication system, nonetheless, provided the evolutionary precursor of both language and music.

The fifth step in the evolution of the human imagination is cognitive fluidity at roughly 250 000-100 000 years ago. Cognitive fluidity is most probably delivered to the mind

through language (Mithen 2007:18; see also Mithen 1996). Humans had the ability to generate novel types of thoughts by means of integrating stores of knowledge and ways of thinking from previously isolated intelligences. Consequently new types of cultural behaviour became apparent. For Mithen (2007:21), the possibility for metaphorical and symbolic thought was provided by cognitive fluidity, and consequently it enabled the development of art, religion, and science.

The extended mind was the next and sixth step which emerged approximately 250 000 years ago. Powers of human memory are limited and therefore the types of thoughts enabled by cognitive fluidity required a solid evolutionary foundation. Mithen (2007:21) explains that these thoughts could only be effectively manipulated, transmitted, and maintained by 'downloading' such thoughts into material culture – originally sculpture and paintings, and thereafter writing, roughly 5 000 years ago. Material extensions of thought as such are key to the human imagination and must be regarded as an important part of the human mind itself. One of the most striking examples is religious ideas, which require a combination of different types of knowledge. These ideas often require knowledge of both animals and people in order to create novel ideas about supernatural beings. This is only one aspect of what is commonly known as the extend mind, as it involves the use of material culture as a mode to overcome the limitations of human memory and computational thought. This particular mode of employing material culture is a result of cognitive fluidity and it enabled a major increase in human imaginative powers.

The seventh and final step in Mithen's perspective on the evolution of the distinctive human imagination is the sedentary farming lifestyles that originated roughly 11 600 years ago. The suitable conditions for the invention of writing emerged with sedentary and farming lifestyles. An economic and social need for writing as a form of communication – which originally appeared as a means of record keeping – arose from these lifestyles (Mithen 2007:23). Moreover, the imaginative potential of modern human minds increased by the development of such farming and sedentary lifestyles. This was, in part, due to the specialists (supported by economic surplus), whose primary focus was on crafting skills and ultimately doing mathematics, science, music, and poetry. But it was also due to the mode in which minds were further extended,

initially by monumental architecture and artworks, and later by writing (Mithen 2007:24).

Mithen is convinced that the modern human imagination evolved by means of these seven steps. Both Mithen and Fuentes mention that the development of the modern human imagination had both wonderful and lethal consequences. The modern human imagination has created great works of art, literature, and science, but also the holocaust and global terrorism, to name a few of its more destructive manifestations. It is also this capacity for imagination that enabled human beings to develop the capacity to be religious within their unique human niche.

For the most part of the human history as a genus and as a species (*Homo sapiens*) the world of organized religion was very different or even absent. Religion, just like so many other parts of the distinctive human existence, evolved over time. Chapter 3 is devoted to the emergence of religious awareness. Religion, just as various other features of the distinctive human existence, evolved over time. Both Van Huyssteen and Fuentes, even though they work in very different disciplines, approaches and methodologies, completely agree that that an essential preliminary to having religion is indeed the emergence of a human imagination as well as the embodiment of a quest for meaning as constituent of the distinctive human niche that has facilitated human flourishing as a species.

There is a certain complexity that makes offering a single definition for religion difficult. With the help of Smith, Alcorta and Sosis, and Fuentes I indicated what I refer to not when using the terms 'religion' and 'religious', as well as what I do not mean. Smith (1998:290-291) asserts that, in short, religion is a way in which humans organize and make meaning of the world we exist in. Smith's explanation and broad discussion of the concept of religion is very valuable; however, I am of the opinion that such a description of religion is inadequate. Alcorta and Sosis (2005:323-359), and Fuentes also underscore this line of thought, propose a list of four major patterns that appear in most, if not all, practices-and-beliefs sets that are usually labelled religion: 1) belief systems incorporating supernatural agents and counterintuitive concepts; 2) communal participation in religious ritual; 3) separation of the sacred and the profane; and 4) adolescence as a preferred developmental period for religious transmission.

Taking this into account, Fuentes (2018b:06:04; 2017a:201) makes a clear distinction between the terms "religious" and "religion." The term "religious" implies the use of an individual's own capacity for belief in the context of becoming with specific perceptual, experiential and agential practices concerning the transcendental, which act to establish powerful, persuasive, and long-lasting moods and motivations that may be but are not unavoidably linked to specific formal doctrines, institutions, practices, or texts (Fuentes 2018b:06:04). "Religion", on the other hand, is characterized as a belief in supernatural agents and counterintuitive concepts, involving symbolic rituals that assist the development of a shared experience of the world, and cultivate a differentiation of the sacred and the profane (Fuentes 2017a:201).

Even though religion is a centrally important part of being human today, there is no strong evidence that this was the case for earlier members of the genus *Homo*. Therefore, Fuentes (2014a:242), in line with Van Huyssteen (2018:ad loc.), emphasizes the importance, in acquiring a more comprehensive understanding of the emergence of religion, of applying an interdisciplinary approach, rather than a single approach with a very narrow explanation of religion or even within one specific religious tradition. From the broad discussion on the emergence of our religious capacity it became evident that imagination, faith, and hope emerged first and prepared us for the institutionalized religions practiced today. A long time before the initial appearance of modern humans we find ample evidence that our ancestors were developing significant and increasingly complex behavioural and cognitive responses to the social and ecological challenges they had to face in their niche (Fuentes 2017a:213). Everything known about the human history proposes that this behavioural and cognitive agility combined with increasing social cooperation and coordination, and the development of and experimentation with symbolic thought, enabled humans to create meaning in unique ways. At a particular point in the evolutionary process humans developed a new way of meaning making, especially by creating and using symbols. Therefore, humans are currently deeply immersed in a symbolic system where imagination, hope, and the associated symbols can maintain stability and meaning and provide the necessary infrastructure for faith (Fuentes 2017a:214). For both Van Huyssteen and Fuentes this is a route to understanding religious thinking. The way the world is interpreted is a result of the interactions of various elements – brains, bodies, experiences, senses, other humans and animals and so forth. Humans,

as both individuals and communities, are immersed in a world of thick symbolic landscapes, much of which is religious.

Given this understanding of religious awareness and symbolic landscapes, Van Huyssteen (2006:267) emphasizes that theologians are confronted with the responsibility of acknowledging the notion that the human capacity to respond religiously to ultimate questions – through various forms of worship and prayer – is profoundly implanted in the human species' aptitude for symbolic, imaginative behaviour, and in the embodied minds that enable such behaviour. This valuable interdisciplinary approach is, in my opinion, vital to any responsible theological perspective on what it means to be human. The study of the deep history of humans offers very little insight into today's institutionalized religions. It does, however, offer great insights into the human capacities for meaning making and into the ways in which this might relate to religious belief and practices.

Lastly, both Van Huyssteen and Fuentes illuminate the particular limitations which come to light in an interdisciplinary dialogue on the capacity to be religious. Religious experience cannot be sufficiently explicated by either biology or the neurosciences. This is due to the fact that only the religious individual can interpret or identify a particular experience as religious or not. Therefore, an experience can only be qualified as religious or not by such a religious individual. The methodological necessity for an interdisciplinary approach to the understanding and explanation of religion and religious experience is consequently illuminated by such an awareness of the limitations of scientific explanations. Thus, I believe theology can and should play an indispensable role in exploring the emergence of our capacity for religious awareness and belief.

Chapters 2 and 3 presented an in-depth discussion on the origins of imagination and religious awareness. In Chapter 4 I offered an interdisciplinary exploration of the origins of human morality. I explored the work of some of the scholars who represent the current conversation on the origins of morality. One of the main motivations for this chapter is the conviction that a more comprehensive understanding of the origin of morality, as well as its relation to the human imagination and capacity for religion, can help us to be more responsible in our ethical considerations. An interdisciplinary understanding of morality, grounded in evolutionary biology, cautions against blindly

basing it on some or another ideological and religious dogma, which often leads to absolute convictions and unquestionable judgements. The body of literature regarding the evolution of morality has expanded enormously over the last few decades. Unfortunately, due to a lack of conceptual clarity, much of this work is often weakened, a point excellently made by theologians Deane-Drummond and Arner.

Frans De Waal, the first scholar whose work I explored, views social acceptance as an essential aspect of human morality. The notion of social acceptance is based on behaviour that is considered acceptable or unacceptable in a specific community, which is a point of connection between the work of De Waal and Tomasello. Unacceptable conduct simply makes individuals outcasts. De Waal (1996:10) is of the opinion that all human communities are moral communities. He also illuminates the possibility of human morality being an extension of general primate patterns of social integration together with the necessary adjustments members had to undergo to fit in. For De Waal (2013:304) the main challenge in the search for a more comprehensive understanding of the origin of morality is to move beyond religion and above all beyond a top-down morality. De Waal criticizes what he termed the 'veneer theory' in building his argument that human morality is an outgrowth of the social instincts humans share with great apes, bonobos and chimpanzees. Advocates of the veneer theory argue that human morality and ethics are merely an overlay of our selfish and cruel nature. De Waal attempts to illustrate the evolutionary origins of morality by using his own extensive work with primates. De Waal consequently holds that for great apes as well as humans, morality is not merely a veneer masking selfishness and self-interest. Rather, morality is an inherent feature of our evolutionary natures, as altruism and empathy are beneficial to the survival of the species. Following this line of thought, humans are moral by nature. With his bottom-up view of morality De Waal emphasizes that morality arises from deep-rooted values. However, humans can be distinguished from other animals on the group level. Our distinctive capacity for imagination makes it possible for us to evaluate behaviour in terms of the greater good for the group or society. De Waal also reminds us that morality most certainly evolved within group contexts. This, however, does not imply that morality is only applicable within group contexts.

De Waal's argument further holds that empathy and reciprocity are the two main prerequisites for morality. A moral society can be characterized by emotional interest in other people as well as mutual exchange. De Waal firmly believes that certain proto-moral emotional building blocks that are noticeably present in some of the great ape societies were necessary for human morality. This does not mean, however, that De Waal is making an argument for animals as being moral beings. It is the mere occurrence of consolation and empathy in both primates and humans that forms the framework for De Waal's notion of proto-morality. De Waal further holds that empathy is so naturally rooted within humans; it is not some sort of decision to be empathetic. One of De Waal's most fascinating arguments, in my opinion, is his direct linking of the notion of empathy with emotional contagion. Emotional contagion is the well-known phenomenon of having one individual's emotions and related behaviours directly trigger similar emotions and behaviours in other people. This process requires the capacity for imagination, conscious reasoning, and analysis. The philosopher Paul Ricoeur develops a quite similar notion of the self as only being a self through others, by means of empathy, and it is all possible through the capacity of imagination. I will discuss this notion in the subsequent section of this chapter.

The next scholar's perspective I explored was that of Michael Tomasello. His account of the origin of morality is superbly researched and built on substantial argumentation. Tomasello's most prominent contribution is the broadening of the concept of reciprocity – through insights from psychological research – in order to explain how the social-ecological circumstances of early humans could have made cooperation indispensable in an evolutionary sense. In constructing a natural history of morality, Tomasello (2016) suggests a two-step process in the evolution of human social life. The first step is the occurrence of novel forms of collaborative activity, and secondly emergence of new forms of cultural organization. Tomasello seeks to illuminate how these novel forms of social life constructed the way that early humans started to engage in moral acts. Consequently, humans viewed their own interests as equivalent to the interests of others, often associated with a sense of obligation to do so. The main thesis of Tomasello's account is that mutualistic cooperation – which is beneficial to all parties involved – provided the foundation for the evolution of proximate psychological mechanisms that over time formed the requirements of human morality. Tomasello also identified two socio-ecological changes that made humans

interdependent and paved the way to the evolution of, first, joint and then later collective intentionality. The first critical change was the shortage of individually accessible resources roughly around 400 000 years ago. A second crucial socio-ecological change, which began around 150 000 years ago, was the increase in population that led to inter-group competition.

Tomasello further constructed an interdependence hypothesis in which he draws an important distinction between sympathy and fairness in the context of morality. For Tomasello (2016:1) cooperation is manifested in nature in two basic forms – altruistic helping and mutualistic cooperation. Characteristic of the former is that one party sacrifices for the benefit of the other. Mutualistic cooperation, on the other hand, is beneficial for all parties involved.  Morality then, for Tomasello, is the uniquely human version of cooperation manifested in nature in these two analogous ways. The morality of sympathy is the most basic, because concern for the well-being of others is fundamental for all moral things. Tomasello argues that acts of helping motivated by sympathetic concern are altruistic acts spontaneously performed, and consequently these acts are in their most basic form not accompanied by a sense of obligation. In contrast to this, a morality of fairness is much more complicated. According to Tomasello (2016:2), a morality of fairness might be limited to only human beings. In situations where a morality of fairness is necessary there is usually a complex interaction of competitive and cooperative motives in every individual involved. The convictions involved in a morality of fairness are usually accompanied by some sense of obligation or responsibility. Where sympathy can be understood as straightforward cooperation, fairness can be understood as some sort of cooperation amidst competition in which balanced solutions are pursued in the conflicting demands of all parties involved.

Tomasello consequently seeks to offer an evolutionary account of the emergence of human morality in the context of both fairness and sympathy. His arguments are built on the understanding that human morality is a form of cooperation, which developed as an outcome of the human adaptation to novel and species-unique types of social interaction and organization. Tomasello upholds that the individual intentionality evident in great apes, which is directed by the morality of sympathy, in due course developed into the joint intentionality evident in early human beings – governed by a

morality of fairness. This joint intentionality later developed into the collective intentionality evident in modern human beings today, and it is governed by a morality of justice. The result of Tomasello's two-step process is that modern humans are in possession of both a second-personal morality for face-to-face engagement with individuals and a group-minded objective morality that binds us to the moral community as a whole. For Tomasello, then, a possible narrative of the natural history of morality would start with the sympathy our great ape ancestors offered their kin and friends. This continues through the history of some early humans who started to collaborate interdependently with one another by means of joint commitments and a sense of partner equality. Eventually it concludes with modern humans, our culturally constituted social norms as well as an objectified sense of right and wrong.

I moved on to explore the perspective of theologian Celia Deane-Drummond. At the start of her discussion on the origin of morality Deane-Drummond notes the division among theologians in this quest. Some theologians are of the opinion that an evolutionary basis for the origin of morality is not relevant and they therefore advocate a purely theological explanation. Others argue that evolutionary explanations are sufficient and indispensable in any exploration of the emergence of morality. Deane-Drummond considers herself as a theologian who attempts to arrive at more responsible conclusions on the origin of morality by creatively integrating insights from both theology and evolutionary theory. She also sheds light on the reality that very few theologians acknowledge the crucial and constructive contributions theology can offer to a discussion on evolutionary accounts of morality. One of her biggest concerns is that the often loose way in which the term 'morality' is used results in some confusion about what is actually meant by morality. Deane-Drummond asserts that the term 'morality' is often used as an alternative to point to agreed frameworks for sorts of actions that are beneficial to a given community. Consequently, it appears as if morality is used as the broadest possible umbrella term under which various characteristics are placed. As a result it is not always clear what is meant when an agent is classified as acting in a moral way or not. For Deane-Drummond sufficient care needs to be taken when the term 'morality' is used.

Deane-Drummond agrees with Agustín Fuentes's criticism of De Waal by arguing that primate behaviour discloses relatively little about human morality. She further argues

that primatologists like De Waal construct their arguments mainly on an assumption that bottom-up, emotion-based tendencies are an adequate explanation of human morality. Such an explanation, however, does not entail the specific rules that are representations for what is known as "justice." Moreover, De Waal's explanation of moral emotions posits that animals have mental perceptions of fear, risk aversion, unfairness aversion, etc. One of Deane-Drummond's well-known developments is a theological anthropology which takes seriously the impact of the lives of other animals on the evolution of human becoming. She also emphasizes the value of niche construction perspectives in exploring the emergence of morality, which helps to avoid reductionist accounts of evolution. Deane-Drummond's notion of inter-morality is built within a framework of niche construction. She explains that interaction between different species leads to decision making that has major moral consequences. Our understanding of morality can benefit by paying closer attention to the lives of the wide range of other social animals, and especially those we come in contact with. Deane-Drummond considers both human and animal morality as inter-morality. Thus, the growing sense of what is collectively seen as acceptable behaviour, and not just in particular communities, is influenced at least to some degree by the signs of morality evident in other animals. It is on this point that Deane-Drummond disagrees with De Waal, especially his notion of the Tower of Morality. She is of the opinion that De Waal advocates the notion that we can draw conclusions for human behaviour from what we observe in other social primates, and consequently she doubts the scientific justifiability of De Waal's motivation for constructing a Tower of Morality. Deane-Drummond asserts that De Waal's notion of a Tower of Morality views humans in a position of supremacy. Also, De Waal's comparison between humans and social primates presumes a relation between them that is not really justifiable if one takes into account how long ago the two lineages diverged. Deane-Drummond's notion of inter-morality is thus an alternative to De Waal's Tower of Morality perspective. Should animals indeed have their own moral norms and worlds, then the notion of inter-morality reveals a different kind of transversality between agents that are occupying intertwining yet different ecological niches.

I wholeheartedly agree with Deane-Drummond that theologians have a lot to gain from insights arising from the work on the human-animal interface. These perspectives pose important challenges regarding the traditional views of human exceptionalism.

Theologians working on the emergence of morality and consequently on human ethics should without any doubt take insights from the evolutionary perspectives into account. Simultaneously, they should take up the important role they can fulfil in enriching these conversations from a theological perspective. Interdisciplinary accounts do remain challenging. Deane-Drummond mentions that one of the most challenging considerations to confront is the amount of epistemological weight to place on evolutionary accounts of the moral life in comparison to that of theological traditions. For Deane-Drummond, then, philosophy can play a crucial role in unravelling the confusions that may arise in this process.

In what follows I will address this very question of how philosophy might help us bridge the gap between evolutionary theories and theology. Paul Ricoeur develops an interesting notion of the human self in his well-known publication *Oneself as Another* (1992) – a dense book of his Gifford Lectures, delivered at Edinburgh in 1986. *Oneself as Another is* an appealing examination of the role of personal identity and presents a profound insight into Ricoeur's personal views on subjectivity and the hermeneutics of the self. Van Huyssteen (2017b:1) is of the opinion that Ricoeur's analysis provides us with a philosophical bridge theory from evolutionary anthropology to interdisciplinary theology, and I would like to add ethics. I will discuss Ricoeur's notion of the self as a bridge theory between the interdisciplinary approaches to our unique capacity for imagination, religion and morality, and how it relates to ethics. I will develop this notion of the self one step further by integrating the views of the British philosopher Roger Scruton on the religious self. I am fully aware of the fact that this could be the basis of a whole study on its own; however, due to the scope and focus of the current study I will only touch on this notion very briefly. Lastly, I will seek to draw a few short conclusions on the study as a whole.

## 5.1 A POSSIBLE PHILOSOPHICAL BRIDGE THEORY INTEGRATING EVOLUTIONARY PERSPECTIVES AND INTERDISCIPLINARY THEOLOGY

Paul Ricoeur is described by Richard Kearny, who completed his PhD with Ricoeur, as one of the most challenging and enduring thinkers of the twentieth century (Kearney 2004:1). Considered as a brilliant intellectual negotiator between competing schools of thought, Ricoeur's major works range from existentialism and phenomenology to

psychoanalysis, politics, religion and the theory of language (Kearny 2004:1). Most significantly, one might argue, Ricoeur also developed his own particular brand of philosophical hermeneutics. According to Kearney (2004:1), the "art of deciphering *indirect* meaning" is Ricoeur's basic definition of hermeneutics. Kearney (2004:1) explains that philosophy is hermeneutical to the extent that it reads hidden meanings in the text of apparent meanings. Consequently, the task of hermeneutics is to elucidate by what means existence arrives at expression, and later again reflection, through the continuous exploration of the significations that emerge in the symbolic works of culture. More specifically for Ricoeur, human existence only becomes a 'self' by regaining meanings which first exist 'outside' of itself in the social institutions and cultural monuments in which the life of the spirit is objectified (Kearney 2004:2).

One of the integral aims of Ricoeur's hermeneutics, according to Kearney (2004:2), is "the idealist doctrine that the self is transparent to itself." In two of Ricoeur's initial works – *Freedom and Nature: The Voluntary and the Involuntary* (1950) and *The Symbol of Evil* (1960) – he shatters the notion of positing the *cogito*[70] as self-founding and self-knowing. Rather, for Ricoeur, the shortest route from self to self is through the other, and consequently, the hermeneutic self is much more than an autonomous subject. Kearney (2004:2) explains this as follows:

> Challenging the reign of the transcendental ego, Ricoeur proposes the notion of *self-as-another* – a *soi* that passes beyond the illusory confines of the *moi* and discovers its meaning in and through the linguistic mediations of signs and symbols, stories, and ideologies, metaphors and myths. In the most positive hermeneutic scenario, the self returns to itself after numerous hermeneutic detours through the language of others, to find itself enlarged and enriched by the journey.

In other words, Ricoeur radically subverts the Cartesian model of the *cogito* as a 'master and possessor' of meaning.

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[70] Oxford Reference (2018) explains *cogito* as follows: In philosophy, the principle (the cogito) establishing the existence of a being from the fact of its thinking or awareness. The word in Latin means 'I think', and comes from the formula, *cogito, ergo sum* 'I think or am thinking, therefore I am' of the French philosopher and mathematician René Descartes (1596–1650). The formulation was first made in French, as *Je pense, donc je suis* in Le Discours de la méthode (1637); it is now generally quoted from the 1641 Latin edition.

According to Edi Pucci (1992:187), the concept of the *cogito* must be directed back from the abstract notion of *res cogitans* within which Descartes had confined it and from the sheer abstract notion of reflexive judging and representational consciousness – in which the idealist philosophies located it – to the 'who' of the being of each of us. "Who are we?" "Who is each of us?" are popular questions of personal identity which many empiricist philosophies of an analytic character have tried to answer. Pucci (1992:187) mentions that this is also the fundamental problematic which Ricoeur develops in both *Time and Narrative* (especially the third volume) and *Oneself as Another*, and that leads into the theme of narrative identity, in which the human subject historicizes itself and finds itself as "the acting and suffering individual." One of the tasks of this chapter is to attempt to use this very analysis of the self by Ricoeur as a philosophical bridge theory to establish the links between the different evolutionary and interdisciplinary perspectives on imagination, religion, and morality I offered in the previous chapters, and also to ask how this might influence our perspective on ethics, especially in the Christian tradition. In order for me to accomplish this somewhat difficult task, I will attempt first of all to offer a brief, but fairly in-depth discussion of Ricoeur's notion of the self as another, of self and otherness. I think it is important to keep as a point of reference Ricoeur's (1992:3) programmatic affirmation at the beginning of the introduction to *Oneself as Another*:

> A kind of otherness that is not (or not merely) the result of comparison is suggested by our title, otherness of a kind that can be constitutive of selfhood as such. *Oneself as Another* suggests from the outset that the selfhood of oneself implies otherness to such an intimate degree that one cannot be thought of without the other, that instead one passes into the other, as we might say in Hegelian terms. To "as" I should like to attach a strong meaning, not only that of a comparison (oneself similar to another) but indeed that of an implication (oneself inasmuch as being other).[71]

According to Di Martino (2016:62), Ricoeur's choice of the terms "self" and "selfhood" embodies and stimulates a philosophical constellation grounded in what can be considered "the most important treatise on the 'self' of the twentieth century, Martin

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[71] In Hegelian terms, the self depends on the Other in its very being. On this notion Hegel (1986 [1811]:20) offers the following important insight: "Therefore the Other penetrates me to the heart. I cannot doubt him without doubting myself, since self-consciousness is real only in so far as it recognizes its echo in another."

Heidegger's *Being and Time*."[72] Pucci (1992:192) mentions that for Ricoeur there has to be an identity located at a deeper level than that of the narrative. It is this then that constitutes the source of narrative identity itself: selfhood [*ipséité*].[73] The fundamental theme of narrative identity is explored in *Time and Narrative* as the deepest nucleus where the subject finds and rediscovers itself as a human being who acts and suffers, and as a consequence creates itself as a story which connects again with other stories (Pucci 1992:192). Interestingly then, in *Oneself as Another*, Ricoeur poses the problem of the identity of the I as selfhood, in relation to the challenges concerning ethicity and morality.

Ricoeur (1992: 27-112) examines this question of identity in the first four studies of *Oneself as Another* through a debate with contemporary analytic philosophy. This work, then, extends its exploration into contemporary theories of action and practical philosophy, in which he touches upon the relation between explanation and understanding (Pucci 1992:192).[74] It is then in the fifth and sixth studies of *Oneself as Another* that Ricoeur (1992:113-165) deals particularly with the problem of the relation between narrative identity and personal identity. Ricoeur (1992:113-139) explores a deeper structure of the "I," which some might think resolves the question of what a person is, in other words "character." Pucci (1992:193) explains:

> Character, as a persistent unity of preferences, inclinations, and motivations, seems to conserve itself and maintain itself as a ground recognizable in its unitary physiognomy through all the phases of a person's life. It could also be a sign, certain and tangible, which, beneath all the different variations of the I in the course of the same life, remains an invariable and constant nucleus. But this is not the case: this "perseverance" is more a sameness than a true and real selfhood.

For Ricoeur (1992:121-122) character is, rather, a persistence which we as humans suffer from, which sometimes win out over our own will and possibilities, and

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[72] In *Being and Time* (1927) Heidegger attempts to answer the question of the meaning of being by offering an account of the distinctive features of human existence. In short, Heidegger draws the conclusion that underlying all of these distinctive features is what he calls 'original time'.

[73] Ricoeur explores this notion specifically in the Sixth Study of *Oneself as Another.*

[74] Ricoeur had already dealt with this notion in some of his earlier works, such as *From Text to Action* (1991).

subsequently enforces itself despite us. This perseverance of character is a passive dimension of the identity of our "I," which is the alternative to an active insertion and participation of ourselves in the more profound core of our personality (Ricoeur 1992:121-122). The true identity of human beings is not something, in them, which can force them to be what they don't want to be. Rather, as Pucci (1992:193) articulates it, true identity entails being recognized by the "Others" as being the same "I" and accordingly the same person. For Ricoeur (1992:123), only self-constancy [*maintien de soi*] in the faithful execution of a promise and of commitments brings into being the pole of selfhood. Each and every one of us desires to be a "who" for someone. Therefore, according to Ricoeur (1992:123):

> Keeping one's word expresses a self-constancy which cannot be inscribed, as character was, within the dimension of something in general but solely within the dimension of 'who?'... The perseverance of character is one thing, the perseverance of faithfulness to a word that has been given is something else again.

This implies, then, that personal identity is, at one level, even more profound than narrative identity. Personal identity and narrative identity do, however, implicate and sustain each other. Pucci (1992:194) asserts that personal identity detects the subject who can be considered responsible for its own acts, because we can ascribe these acts to it. On the other hand, the empiricist position,[75] in which personal identity can not even be thought of, lacks a pathway to the origin of responsibility and accountability.

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[75] Pucci (1992:193) offers this distinction as preliminary response to Ricoeur's approach to the I and Selfhood: "The old metaphysical philosophy which makes recourse to the concept of soul-substance has been put out of play by Kant's critique of rational psychology. Analytic philosophy attempts to solve the problem on the basis of references which actualize themselves in linguistic functions alone. But analytic philosophy is not able to comprehend and make understandable how the reference to the I in discourse can account for the fundamental unity of the manifestations which refer on the one hand to the external side of the I (the body), and on the other hand, to the interior and psychic side. The paradox of personal identity remains. The objections of classical empiricism appear invincible, e.g., what happens to someone who loses his/her memory: does he/she lose, with this, his/her personal identity? What would happen if, by hypothesis, we transplant the brain of someone into the body of another? And so on. The defeat of cognitive philosophy, including the analytic tradition, in facing this question, demands another kind of approach."

In the sixth study, entitled "The Self and Narrative Identity" Ricoeur continues his exploration on identity and he (Ricoeur 1992:147-148) writes:

> ... the character draws his or her singularity from the unity of a life considered a temporal totality which is itself singular and distinguished from all others. Following the line of discordance, this temporal totality is threatened by the disruptive effect of the unforeseeable events that punctuate it (encounters, accidents, etc.). Because of the concordant-discordant synthesis, the contingency of the event contributes to the necessity, retroactive so to speak, of the history of a life, to which is equated the identity of the character. Thus chance is transmuted into fate.... The person, understood as a character in a story, is not an entity distinct from his or her "experiences." Quite the opposite: the person shares the condition of dynamic identity peculiar to the story recounted. The narrative constructs the identity of the character, what can be called his or her narrative identity, in constructing that of the story told. It is the identity of the story that makes the identity of the character.

Narrating and recounting in this view, as Pucci (1992:194) explains, situate themselves in between "describing" and "prescribing." The ethical challenge that originates from the attention and listening to stories is put into action by this same attitude of listening and reception. Ricoeur (1992:164), in discussing the ethical implications of narrative, maintains that narration and reading by no means require an attitude of neutral reception unconcerned with what is recounted, but they do imply an "exchanging of experiences." Thus, an appreciative and evaluative attitude of emphasis and rejection is always actualized in front of narratives, or as Ricoeur (1992:164) puts it: "The thought experiments we conduct in the great laboratory of the imaginary are also explorations in the realm of good and evil."

Furthermore, according to Pucci (1992:195), the theory of action is linked to ethics. The recounted person, whether he or she becomes as a model which can be imitated or not, portrays something that, through the narrating process, opens itself up to a prescriptive dimension, and is therefore no longer a simply descriptive dimension. As a result it introduces an ethical type (Pucci 1992:195). Narrative identity, according to Ricoeur (1992:151), fluctuates between a sameness [*mêmeté*] and selfhood [*ipseity*], and consequently leads back to "ethical identity, which requires a person accountable for his or her acts." The ethical implications of narrative arise from the very act of listening to what is narrated. So, following Ricoeur (Pucci 1992:195), the ethical

implications pertaining to selfhood, which are added to the dimensions of language and narrative, do not represent an extrinsic factor, but are rather essential. Ricoeur (1992:170) phrases it as follows: "Telling a story, we observed, is deploying an imaginary space for thought experiments in which moral judgment operates in a hypothetical mode." For Ricoeur (1992:178) ethics is therefore oriented towards the good life, by means of the praxis provided with a sense: "The idea of the narrative unity of a life therefore serves to assure us that the subject of ethics is none other than the one to whom the narrative assigns a narrative identity."

Pucci (1992:204) states that for Ricoeur, the being of reality and its becoming in time is related to us through the constructing of narrative, by means of imagination, in dimensions of time which allow us to go beyond the "closedness of the exterior time of nature and the pure and simple chronological reality of human facts." Furthermore, Ricoeur upholds the necessity of maintaining an ontology of human finitude in which the most profound understanding of the fundamental condition of human beings, for example, identity in being a person, transfers from traditional metaphysical categories like consciousness, substance, etc. to a declaration and commitment to exploring the human self of each of us, "in a dimension ethically communitary, in the centrality of the moral relation of reciprocity" (Pucci 1992:205). The answers to the questions "Who are we?" and "Who is each of us?" are best discovered through our existence with Others in a history in which we are mindful of a one and common world. Such a world is formed by the Others who have preceded us. These Others have passed on the duty to conserve the legacy of values and of freedom without which any life oriented toward the good and the just is inconceivable (Pucci 1992:205).

To the question "Who is the subject?" Ricoeur avoids answering in a direction of the concept of a subject that exists within the borders of the ego which pretends to master itself and the world (Pucci 1992:205). Selfhood is by no means the exclusive sphere of the "I"; rather it is the "oneself" which belongs to any person in the constitutive relation with otherness, that is to say I, you, him, her. The I should thus be understood as a reflexive omni-personal pronoun. Ricoeur, according to Pucci (1992:206), opposes the notion of identity as *ipse* – that of one who maintains a promise – to identity as *idem* – that of things which remain immutable through time. As a final point, Pucci (1992:206) asserts that the meditation on selfhood and otherness gives rise to

a recognition of an essential connection between the two terms of "oneself as another" [*soi-meme comme un autre*]: "becoming oneself as the acknowledgment of the other who is in oneself." To reflect upon oneself by no means implies the mirroring of oneself, rather it implies an innovativeness of re-appropriation. Self-realization, for Ricoeur, unavoidably takes place through the relation of the self within its relation with the other, as the original affirmation of that partial being in the ongoing process that we are (Pucci 1992:206). Ricoeur appears, then, to move towards a vision of the self-realization which inevitably must occur in praxis.

Ricoeur's striking notion of the human self is defined, at the most profound level, by time and narrative, in other words, by the depth of its historical dimension. As Van Huyssteen (2017b:1) puts it, for Ricoeur, the narrative dimension of human consciousness and self-awareness not only enables human beings to envision new projects, to evaluate motivations, to initiate viable courses of action, but the narrative dimension also enables us to empathise profoundly and identify with others. According to Van Huyssteen (2017b:2), Ricoeur's narrative understanding offers us an ethics of responsibility which consequently drives human beings, by means of empathy, beyond extreme self-reference to relationships with others. It is this extension of the 'circle of selfhood' that comprises an "enlarged mentality ultimately capable of imagining the self in the place of the other" (Van Huyssteen 2017b:1). Thus, in Ricoeur's notion of narrative understanding, individuals are ultimately liberated from all-consuming self-absorbed or egoistic interests, whilst maintaining their fragile identity as selves. For Van Huyssteen (2017b:1), such a narrative understanding produces a basic act of empathy through which "the self flows from itself towards the other in a free variation of imagination." Consequently, it can be argued that self-regarding is transformed by narrative imagination in to a self-for-another. It is the power of imagination that enables the self to lace together numerous elements of a life into a single narrative.

In other words, Ricoeur constructs a philosophical framework in which memory functions as the crucial mediator between time and narrative, and imagination makes possible an understanding of the human self as oneself only through and in the other person. Van Huyssteen (2017b:1) argues that personal identity or 'self', as such, is "both articulated and constructed solely through the quintessential human niche provided by the temporal and relational dimensions of embodied human existence."

An ethical connection of the sense of self to the future is then, as Van Huyssteen (2017b:2) puts it, exposed by the bodily rootedness of the self in time and through memory and imagination. This ethical link to the future is viable in so far as an individual's personal identity is dependent on him or her keeping his or her word. Hence, the very act of promising attaches an individual or a self to the future.

In some way Ricoeur's crucial themes of identity and ideas of 'selfhood' are revisited by Roger Scruton in his 2010 Gifford lectures, subsequently developed into a book *The Face of God* (2012). Scruton specialises in aesthetics and political philosophy. He now develops Ricoeurian ideas of selfhood further to take into account the central idea of the 'religious self', and ultimately God (Van Huyssteen 2017b:2). In a way, Scruton starts his account from the point that a useful way of approaching what God's face is like is by beginning with the human face and the 'self' that expresses itself in it. Scruton (2010:37), like the famous *I and Thou* of Martin Buber, proceeds from the observation that being present to another as a person is completely different from being in the locality of a simple objective thing.[76] Being present to another as a person, similar to Ricoeur's view, is completely intersubjective. Van Huyssteen (2017b:2) explains, because the moment one person acknowledges 'another' as a person, this instantly involves an entire range of reciprocal and morally charged relations. Consequently, the first-person perspective both empowers and limits the one who is capable of expressing it, subjecting one to the authority of obligation, but also opening one up to the prospect of love (O'Brien 2012:2; Van Huyssteen 2017b:2). Following this perspective, Van Huyssteen affirms (2017b:2) that:

> The human spheres of family, neighbourhood and church are the outgrowths of our capacity for first-person relations and our typical patterns of behaviour, affect and

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[76] In short, Martin Buber's (1923) I-Thou is a philosophical doctrine of the mutual relation between beings, further developer by other 20th-century philosophers. The relation between a human being and God (the Eternal Thou) is the primary and most refined form of this relation. It is also this relation between a human being and God which is the model for and enables I-Thou relations between human beings. The relation between God and humans is always an I-Thou relation. Relations between human beings, however, very often take the form of an I-It. In an I-It relation the other being is viewed or treated as a mere object of thought or action.

judgement, and are distinctive and precarious achievements that distinguish human persons from 'mere' animal existence.

Scruton (cf. Van Huyssteen 2017b:2; O'Brien 2012:1)  also argues that it is not the superficial 'new-atheist' arguments of the Dawkinses and Dennetts that lurk to dissolve religious faith, but rather a culture that persistently treats individuals as if they were mere things, and that reduces human objectives to primitive desires. God is denied in such a culture, then, since the face of the human person has already been marked out. Consequently, for Scruton (2010:50), the question 'what and where am I in a world of objects?' is a necessary preliminary to the question 'what and where is God?' Van Huyssteen (2017b:2) mentions that for Scruton, this particular question actually answers the question of whether God is a person or not: if humans are indeed, as Genesis teaches, created in the image of God, then human nature and human community are occurrences of God's presence in the world. In this approach, the personhood that is revealed in the human face becomes extended to ultimately reflect the 'face of God'. In so doing, according to Van Huyssteen (2017b:2), Scruton constructs the possibility for a bottom-up theological anthropology that wishes to illustrate that God's presence in the world is only discoverable if we attend to the nature and significance of human community. It is there that the face of God, in the person of Jesus Christ, has been made present to us (Scruton 2010:157; 2012:172).

This ultimately is Scruton's (cf. Van Huyssteen 2017b:2) reaction to materialism and scientism: "in a truly interdisciplinary world, the qualities of human personhood, and of God as a person, cannot be explored as mere objects." This also makes clear what God is not: God is not mysterious and supernatural, but is present to us through Jesus Christ in the faces of others. One could say that Scruton (2010, 2012) also explicitly rejects all dualism in understanding the self and its body, and in this way, he also wants to observe the mystery of human consciousness and save it from those who would reduce it to biology and neuroscience (Van Huyssteen 2017b:2).

This has deep implications for the question of God's presence in the world.  As Scruton (2012:45) puts it: "If you look on the world only with the eyes of science, it is impossible to find the place, the time or the particular sequence of events that can be interpreted as showing God's presence." Scruton (2010:62) has argued that multiple meanings can be derived from the question 'why?' Consequently, the 'why?' of science, which

looks for causes, should be distinguished from the 'why?' of reason, which looks for arguments, and the 'why?' of understanding, which looks for meanings (Scruton 2010:62). Both our enquiries and our ways of ordering the world follow these separate routes to meaning. Scruton (2010:62) explains that science attempts to divide nature at the joints, hence, to cluster together those things that have a common structure and a common causal history. The theories of science set up concepts of natural kinds and primitive variables, and the surface phenomena are respected only so far as is needed to explain them. For Scruton (2012:45), then, God disappears from the world as soon as we address it only with the 'why?' of explanation, in the same way that the human person disappears from the world when we look only for a neurological explanation of his or her acts. So maybe God could be found in the world where we are now only if we stop to invoke God with the 'why?' of causality, and rather address God with the 'why?' of reason, and the 'why?' of understanding. And following Scruton (2012:45), the 'why?' of reason and understanding must be addressed from 'I' to 'you'. Scruton (2012:49) concludes this line of thinking in a prominent paragraph by stating:

> You can situate human beings entirely in the world of objects. In doing so you will in all probability reduce them to animals whose behaviour is to be explained by some combination of evolutionary psychology and neuroscience. But then you will find yourself describing a world from which human action, intention, responsibility, freedom and emotion has been wiped away: it will be a world without a face. The face shines in the world of objects with a light that is not of this world – a light of subjectivity. You can look for freedom in the world of objects and you will not find it: not because it is not there, but because it is bound up with the first person perspective, and with the view from somewhere of the creature who can say 'I'.

In Van Huyssteen's (2017b:3) opinion Scruton, in this argument, is not at all merely making a basic distinction between 'interpretation' and 'explanation', rather he is actually opening up a door to the profound complexity of talking about the person of God and the human person in a radically interdisciplinary way. This is the reason why Scruton (2012:68) can distinguish between the 'why?' of science (in search of causes), the 'why?' of reason (in search of arguments) and lastly the 'why?' of understanding (in search for meanings that may be inaccessible to causal thinking and rational argumentation). Van Huyssteen (2017b:3) believes that these different levels of thinking could all have their position in theology and in theological anthropology.

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However, the comprehensive 'why?' of understanding opens up a pathway to incorporating an influential role for aesthetics in having a theological understanding of uniquely human experiences such as suffering, tragedy, guilt and redemption. For Scruton (2010:25; 2012:20), this occurs especially and sacramentally through the Christian Eucharist, and it is one reason why the meaning of the sacrament is so easily experienced, but so hard to explain – unless it is explained through a work of art.[77] In Scruton's quest, then, for understanding the religious self, aesthetics is now taken up alongside theology and the sciences with a unique task to probe what cannot be probed by the natural, human, or social sciences.

In agreement with Van Huyssteen (2017b:3), I believe Scruton's view of the religious self, along with Ricoeur's insightful vision of profound empathy for others, provides us with a pathway to bridge the gap between evolutionary and theological accounts. Integrating Scruton's view and Ricoeur's vision provide (in my research opinion) the best bridge theory for enabling a proposal for a bottom-up, contextual form of evolutionary ethics. I think it also prompts important questions about how this might apply specifically to the evolution of morality, to ethical judgements, and the status of ethical judgements and moral codes in theology. Due to the limited scope of this study I will not attempt to answer these questions, even though I feel it is important to mention them. Most significantly, both Scruton's and Ricoeur's perspectives imply a notion of morality and ethics, in this case a Christian ethics that is not developed in a 'top-down' framework with regard to duties, rights, rules, moral judgement and moral status. Rather, it is a 'bottom-up' view, which takes seriously the exploration of the fundamental evolutionary realities of human nature, in other words a natural history of morality. Such an approach, I believe, will bring us closer to developing a responsible ethics, which philosopher Philip Kitcher argues for in his work *The Ethical Project* (2011). For Kitcher (2011:207) it is often wrongly assumed that some authority is necessary in ethics, some position from which a certain truth can be reliably discerned. Kitcher (2011:207) argues, however, that this is not necessarily the way to view ethics as it may simply be something we work out together. Neither religion nor philosophy can proclaim with ultimate authority. For Kitcher (2011:207), in the end, the only

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[77] The German composer Richard Wagner achieved this strikingly in his drama *Parsifal* (cf. Scruton 2012:20).

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authority is that of the ongoing conversation between people from diverse disciplines working it out together.

I believe that the scholars I referred to in the conversation on morality, especially Tomasello and De Waal, offer a bottom-up account of morality which is necessary in holding a bottom-up view of ethics. Tomasello's bottom-up account, for example, assumes that two key events – ecological change that resulted in food scarcity, and the development of culture – led individual intentionality to develop into joint intentionality, and eventually for joint intentionality to develop into collective intentionality. Tomasello thus assumes at least three basic levels of morality. The first is simply the cooperative tendencies evident in great apes as well, centred on a special kind of sympathy for kin and friends – individual intentionality. The second is a joint morality of collaboration and intentionality with a sense of partner equality. The third is a collective intentionality which is a more impersonal collective morality of cultural norms and institutions in which all members of the cultural group are considered equally valuable. In this view it is only the first level we share with other social animals. The two ecological changes resulted in early humans, and us today, being interdepended in a way that no other social animal had been before, and the same applies to the level of collaboration.

Supposing that there is such a thing as the moral law, it is, however, highly unlikely to be the same the world over. Even though there are some degree of universality with regards to good and harmful behaviour towards others, there are indeed great differences within every society in what is considered as moral or not. As De Waal (2013:180) argues, morals do not reflect an unchangeable human nature, rather morals are closely linked to the way humans organise themselves and negotiate their worlds. In this regard and in accordance with Van Huyssteen (2017b:9) I want to highlight the great contribution of philosophers like Philip Kitcher, who attempts to argue for a different position for ethics that grounds morality in biology without truly denying that its specifics are determined by people. For this reason, moral laws are simply guidelines of how we ought to behave for the greater benefit of the group. In this view then, it is impossible for morality to escape a humble evolutionary origin. And this again underlines the plausibility of a bottom-up approach to morality. The moral law is not imposed by the Divine or derived from well-reasoned principles; rather it

arises from deep-rooted values that have been there since the beginning of time (De Waal 2013:228; cf. Van Huyssteen 2017b:9).

Both De Waal and Tomasello agree that on the level of human morality other primates are left behind. We as humans care deeply about the group level and develop concepts of right and wrong for all members, and not just for ourselves and our close associates. This involves superior cognitive powers of abstraction as well as the anticipation of what may happen if we allow others to get away with behaviour that does not even directly affect us. As individuals we self-regulate our actions through the larger group's social norms, and when these norms are not abided by, it evokes criticism not only from affected individuals but also from disinterested third parties. In this way, morality helps to spread the benefits of group life (Van Huyssteen 2017b:9; Tomasello 2017). It is exactly a bottom-up naturalised ethics that offers us an account of how we have reached the point where we are in societies today. Also, it is interesting to note that in an evolutionary sense, morality arose first, with religion latching on to it later (Van Huyssteen 2017b:9; cf. De Waal 2013:239).

## 5.2 CONCLUSION

From the interdisciplinary approach to the human capacity for imagination, religion and morality, and its interdisciplinary conversations across diverse disciplines with several scholars in what I believe is the forefront of this current dialogue, I draw a number of conclusions.

1) In this interdisciplinary approach to a more comprehensive understanding of human imagination, religion, and morality it is necessary to espouse an understanding of evolutionary anthropology which is able to assist us in understanding what it means to be a natural, as well as a cultural, being with significant symbolic propensities. I believe we can find a suitable framework for such an understanding in the niche construction theory.
2) Key to the human capacity for symbolic behaviour is our equally significant capacity for imagination. In line with Van Huyssteen (2017a:4), I want to argue that from a theological and philosophical point of view, it is exactly at this point where the evolution of the moral sense and morality becomes vitally important.

From this study it becomes clear that in order for us to approach and fully comprehend these significant human traits – the human propensity for religious imagination and the moral sense – it is necessary to explore more thoroughly the core role of the evolutionary transition between becoming human and being human. Our distinctive capacity for imagination is part and parcel of the explanation for this evolutionary achievement – being human.

3) This study further made clear that in order for us to begin to comprehend the emergence of religious awareness and the moral sense, it is essential to find interdisciplinary points of connection over a wide range of explanatory frameworks whose focal points are not limited to merely one particular set of explanations of religion and morality. This implies that these points of connection would also lie outside of any single particular religious tradition. As is evident from the work of Fuentes, explored in this study, it is possible for us to link the origination of a distinctive human ecological and socio-cognitive niche to existence in a world that is loaded with meaning. Consequently this niche can also be linked to the development of an imagination that enables the capacity and skills for the prospect of metaphysical thought. In other words, within this evolutionary context we can envision a distinctive imagination as a central part of the human niche, which eventually facilitated the prospect of metaphysical thought.

4) Following the short evolutionary history of the human lineage across specifically the Pleistocene, as described in Chapter 2, it becomes clear that there is substantial increasing complexity in the way in which humans interact with their surroundings. This increase in complexity is directly linked to a fast developing human cognition and social structure, which would be impossible without increased cooperative abilities and coordination within human communities. An exceptional cooperative and mutually integrated social system combined with enhanced cognitive and communicative skills as the key adaptive niche gave rise to the development of language, theory of mind, great levels of intentionality, empathy, moral awareness, symbolic thought, social unity, etc. This notion is central to Tomasello's perspective on the origin for morality.

5) In this view is it clear that the emergence of religion can be found neither in adaptations through natural selection, nor in viewing religious belief as a mere by-product of human cognitive complexity. The emergence of and capacity for

religious belief is a product of the interactive way in which humans all through prehistory have negotiated the world around them. This means, however, that this capacity does not lie solely in underlying neurological structures themselves, or only in the content or power of religious beliefs as such. Thus, the emergence of a human imagination and the manifestation of a quest for meaning as an essential part of the human niche is indeed a necessary precursor to having the capacity for religion. The same naturalness that applies to the human imagination also applies to the religious imagination. On this point Van Huyssteen (2017a:6) makes the fascinating point that for Christian theologians this offers an exciting bottom-up view of the outstandingly complex way in which God has shaped and prepared the human species to be physically, mentally and spiritually 'ready' for faith. This is a point that I am not able to develop further due to the limited scope of this study.

6) Concerning the origin of morality, I believe it is within the framework of our unique human niche, which includes the lives of other organisms as Deane-Drummond reminds us, that we can find profound answers on the origin of moral awareness. It is also our very capacity for imagination which allows us to evaluate our actions in terms of other individuals and the wider society. Significant ecological changes within the human niche lead to greater complexity in collaboration and cooperation capacities which in turn paved the way for the various forms of morality known in modern humans.

7) I am also of the opinion that empathy remains one of the crucial precursors to morality. We do not at any given point decide to be empathetic – we just simply are. As is evident in the work of De Waal, empathy requires emotional contagion, and imagination is necessary in this process. Therefore, one can argue that it is our very capacity for imagination that connects bodies with bodies. In this view, empathy is the capacity to see deeply into another. In Ricoeur's line of thought this can be translated as finding oneself in another. Empathy allows us to experience the density of another person. This whole process of awareness that becomes self-awareness through our capacity for imagination creates an ethical space within which an individual can evaluate his or her actions, thoughts, words in light of the other.

8) I further think it is important to acknowledge the distinction between our capacity for moral awareness, in other words our tendency to think in normative terms,

and our moral judgments. This study on the evolution of imagination, religion and morality made clear that evolution, by natural selection alone, can only explain the former, namely moral awareness. Evolutionary explanations of our moral awareness can, however, not explain moral judgement or justify the truth claims regarding our moral judgments. We can only start to explain moral judgements on the level of the more interactive cultural evolution that forms part of niche construction, as well as by taking into consideration the historical immersion of our moral codes within religious and political traditions. Even though religion is not the source for our capacity for morality, religion through history has played and still plays a profound role in how and why we make certain moral judgements.

9) How does all this then relate to ethics, specifically in the Christian tradition? In answering this question I would like to point to Kitcher's (2011:409) striking thesis that in a way links with the arguments of both Tomasello and De Waal. Our remote ancestors began the 'ethical project' tens of thousands of years ago. They introduced socially embedded normative guidance as a response to the difficulties and tensions of life together in small groups. Kitcher (2011:409) further explains that our ancestors were equipped with dispositions to psychological altruism and sympathy that facilitated them living together. However, the boundaries of those dispositions prevented our ancestors from living together smoothly. These normative ventures of our remote ancestors paved the way for the emergence of some principles we as modern humans are not likely to abandon should we strive to make ethical progress (Kitcher 2011:409). These principles can be characterized as somewhat vague generalizations that represent ethical truths in our societies today. We have also inherited a sense of the ultimate good, which often includes conflicting elements, but also provides us with, as Kitcher (2011:409) argues, "a far richer conception of human life than any of the first ethical pioneers could have apprehended." Today, our ethical task is not over, as the ethical project is never finished. We have the great ethical task of deciding how to go on. With regards to Christian ethics, I believe, we cannot further this ethical project in a responsible way without an interdisciplinary approach combining theology with the sciences. A more comprehensive understanding of the deep roots of

imagination, religion and morality can without doubt facilitate this important task.

10) This study illuminates the reality that Christian theologians, interested in human origins and a more comprehensive understanding of what it means to be human as well as how this all relates to specifically ethics, ought to be drawn to the sciences and interdisciplinary discourse on these crucial topics. Well considered interdisciplinary approaches can facilitate the identification of shared resources in diverse kinds of knowledge. Ultimately they might help us reach beyond the boundaries of our own traditional disciplines into what Van Huyssteen (2017a:7) calls "cross-contextual, cross-disciplinary conversation." I believe questions regarding human origins and the evolution of religious awareness and morality are one such shared interdisciplinary problem in which theology and the sciences can most vividly find a shared interdisciplinary approach. The interdisciplinary dialogue between the sciences and theology is indeed filled with challenges. This is due to the mere fact that scientific findings, paradigms, and worldviews cannot simply set the agenda for theological reasoning. In the same way, profound theological convictions cannot be easily transferred to scientific or philosophic systems. But, as Van Huyssteen (2017a:7) demonstrates, this kind of transversal reasoning does imply that it is possible for theology and science to share concerns and meet on commonly identified conceptual problems. In the process diverse disciplines may find remarkable connections and overlapping intersections on crucial issues such as addressed in this study.

11) Evident in this thesis is the notion that the evolution of morality is deeply entangled with the evolution of the religious disposition, and also other unique traits of being human. For religious believers, this without doubt implies that, if we accept the notion that evolution has shaped our human bodies in a profound way, we should accept the notion that evolution has significantly shaped our manifested minds. We are genetically prone to create moral codes based on our genetically predisposed moral sense, just as we are prone to learn the language of our particular communities. Similarly, evolution has bestowed on us a proneness to search for meaning, for ultimate questions, to learn and live the religion of a particular community. Against the background of the constructive role of niche construction and a broader and more profound view

of human evolution, with religion and morality, it is ultimately culture – and not just genetics – which provides the fruitful content of what is learned, appropriated and believed. Ultimately, I am of the opinion that the crucially important questions regarding the evolution of the moral and religious sense presents theology, and in particular Christian believers, with a number of vitally important challenges.

12) As indicated in this thesis, evolution convincingly and noticeably points to the fact that human moral proclivities have indeed emerged from natural processes. This could draw attention to the vitally important challenge for theology, i.e. that we should take seriously the fact that some part of what one might call our 'sinful natures' are indeed 'natural' and not at all part of some 'postlapsarian state' after the supposed Biblical fall or corruption as narrated in the Bible.[78] However, as revealed in this study it is this same natural process that enhanced our capacity to be receptive to what is morally good. Evolution, therefore, has undoubtedly instilled in us both antisocial and prosocial inclinations. This view calls for serious contemplation, especially by interdisciplinary theologians, on the notions of salvation, atonement, the Cross, and what it might mean to think of the gospel as good news for the human species. These difficult issues are just some of the crucial points that call on the necessity for exploration by interdisciplinary theologians.

13) The key distinction between an inherent, evolutionary moral awareness and the evaluative discernment necessary for making intelligent moral judgement does not, as Van Huyssteen (2017b:10) puts it, have to result in moral scepticism or relativism. Conversely, all of our beliefs do indeed have a very complex causal history. However, it would be impossible to determine from evolutionary, neurological capacities, and from philosophical or broader cultural reasons behind the history of our beliefs and belief-systems, that all of our beliefs are unjustified, including also our religious and moral convictions (Van Huyssteen 2017b:10). Yet following the interdisciplinary perspective adopted in this study, we should take seriously the notion that some of our religious beliefs are indeed more credible and plausible than others. This also applies to our inclination to

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[78] This is an argument recently developed by Kenneth Reynhout, in his publication *Human evolution and the nature of morality* (2015), which is also briefly taken up by Van Huyssteen (2017c).

moralise and to the sturdy moral convictions often held by us. This view brings us to the challenge of not only arguing for some of the persistent moral codes and laws within the context of the Christian tradition. But, moreover, and I would like to add most importantly, we are also challenged to argue for why it may be plausible to think that, at the very least, some of our moral beliefs are more reasonable than others. Moral codes are undeniably some of the core components of religions, and particularly the Christian tradition. In an evolutionary sense, religion can indeed be viewed as part of the cultural and social structures that underpin our morality.

As a final point, I consider the abovementioned findings of this thesis as all the more reason for Christian theologians to acquire a more comprehensive understanding of some of the crucial aspects of being human – like imagination, morality and religious disposition – in order to construct a more responsible notion of ethics. The challenge, however, is to determine how differently ethical issues will be approached with a deepened understanding of morality and religious awareness, rooted in nature. I believe, by espousing a bottom-up view of morality, our approach to and view of prominent ethical issues regarding sexuality, gender, etc. would be radically different. Interdisciplinary theology is able to responsibly reconceptualise Christian ethics, especially with reference to issues that call on being human. In accordance with Deane-Drummond and Van Huyssteen, I believe Christian theologians should take up the responsibility to continue to explore the constructive and vitally important ongoing contribution that theology can make in any discussion on religion, morality and ethics.

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