

The emergence of personhood – why the evolution of the moral sense and symbolic behaviour defines the human self

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ABSTRACT

In this essay I want to ask whether contemporary theories of human evolution might provide us with important bridge theories to theological anthropology and thus to a positive and constructive way of appropriating Darwinian thought for Christian theology. From a more philosophical point of view I am asking whether Darwin's perspective on human evolution can help us move forward to more constructive, holistic notions of self and personhood. In John de Gruchy's remarkable new book, *Led into Mystery*, we not only see this kind of "archaeology of personhood" strongly implied, but de Gruchy lifts up issues that are of great importance for evolutionary anthropology, and goes into a direct dialogue with neuropsychology and the neurosciences. In so doing he reveals the crucial impact of these sciences for central theological themes like the question of God, the perennial *theodicee* problem, the *imago Dei*, human consciousness, free will, life after death, and brain, mind, body and soul. In this way De Gruchy touches directly on some of the greatest controversies in current science and theology discussions. I would like to show that John de Gruchy places these crucial interdisciplinary issues in the centre of discussions on the human self, and in so doing opens up exciting trajectories that even go beyond the focused scope of his own project – notably challenging implications for the evolution of morality and of religion.

KEYWORDS

Personhood, Evolutionary anthropology, Symbolic behaviour, Niche construction, The evolution of religion and morality

TREFWOORDE

Menswees, Evolusionêre antropologie, Simboliese gedrag, Niche konstruksie, Die evolusie van godsdiens en moraliteit



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1. INTRODUCTION

For a theologian deeply committed to public theology and the interdisciplinary dialogue with the sciences, the privilege of being so directly involved with anthropological issues concerning *human nature*, and specifically *human origins* over the past few years has indeed been both enriching as well as an extraordinary challenge. Most importantly, I have learned that evolutionary anthropology, including palaeoanthropology, presents us with a very unusual problem of semantic innovation: in looking back to the distant prehistoric past, how does new meaning come to be, and when this happens, how does interpretation and explanation enable us to reconfigure often long-forgotten meanings about our own origins and nature in this distant past? For French philosopher Paul Ricoeur, this kind of hermeneutical/epistemological venture always involved a radically interdisciplinary journey through the lengthy route of multiple detours in direct dialogue with the human sciences, the natural sciences, philosophy, and theology (cf Ricoeur in Kearney 2004:124). In these necessary boundary crossings between different reasoning strategies, we indeed come to learn that various disciplines often transversally connect around shared problems.

One such problem is the problem of human nature and human identity. In this essay I want to ask whether fact of human evolution as such might provide us with important bridge theories to theological anthropology and thus to a positive and constructive way of appropriating Darwinian thought for Christian theology. From a more philosophical point of view I am asking whether Darwin's perspective on human evolution can help us move forward to more constructive, holistic notions of self and personhood, and to what Chris Fowler has provocatively called "the production of personhood" (cf Fowler, 2004). I will presuppose in this paper what I have argued elsewhere, which is that in the history of hominid evolution we find surprising answers to the enduring question of what it means to be a *self*, a human person¹. In fact, what we now know about key aspects of hominid evolution affirms

1 cf J. Wentzel van Huyssteen: *Alone in the World: Human Uniqueness in Science and Theology* (Wm. B. Eerdmans 2006); "Interdisciplinary Perspectives on Human Origins and Religious Awareness," in Colin Renfrew and Iain Morley (Eds.), *Becoming Human: Innovation in Prehistoric Material and Spiritual Culture* (Cambridge: Cambridge University Press, 2009); "What Makes us Human? The Interdisciplinary Challenge to Theological Anthropology and Christology" in *Toronto Journal of Theology* 26/2, 2010, 143-160; "When Were We Persons? Why Hominid Evolution holds the Key to Embodied Personhood", in *Neue Zeitschrift for Systematische Theologie* 52, 329-349, 2010; "Post-Foundationalism and Human Uniqueness: A Reply to Responses" in *Toronto Journal of Theology* 27/1, 2011, 73-86; "Coding the Nonvisible: Epistemic Limitations

what Darwin argued for as crucial aspects of humanness. To this end I would have wanted, ideally, to consider the problem of human evolution, or the archaeology of personhood (cf Fowler 2004), and its broader impact on theological anthropology, by tracking a number of challenging contemporary proposals for the evolution of crucially important aspects of human personhood that were all of great significance for Darwin: the evolution of sexuality, the evolution of cognition, imagination, music and language, the evolution of morality, and the religious disposition. However, because of time constraints I will presuppose here that the evolution of these crucial aspects of human personhood ultimately converges on the complex but exciting issue of the evolution of the human self.

In John de Gruchy's remarkable new book, *Led into Mystery*², we not only see this kind of "archeology of personhood" implied, but also clearly stated, as I will try to show. In this work de Gruchy not only lifts up issues that are of great importance for evolutionary anthropology, but in fact goes into a direct dialogue with neuropsychology and the neurosciences, and in so doing reveals the crucial impact of these sciences for central themes like the question of God, the perennial theodicee problem, the *imago Dei*, human consciousness, free will, life after death, and brain, mind, body and soul. To this rich discussion could also be added moral issues like good and evil, and even more exotic themes like heaven and hell. In this way de Gruchy touches directly on some of the greatest controversies in current science and theology discussions. I would like to show that John de Gruchy places these crucial interdisciplinary issues in the centre of discussions on the human self, and in so doing opens up exciting trajectories that go beyond the focused scope of his own project – notably implications for the evolution of morality and of religion.

2. THE EVOLUTION OF THE HUMAN SELF

Before returning to a few specific aspects of the current discussion on the evolution of morality and religion, and plotting an interdisciplinary trajectory back to John de Gruchy's work, I want to briefly mention a number of intriguing contemporary proposals for some of the most defining traits of what makes us human, and that should, therefore, be included in any embodied definition of human nature and

and Understanding Symbolic Behavior at Çatalhöyük", in Ian Hodder (Ed.), *Religion in the Emergence of Civilization: Çatalhöyük as a Case Study* (Cambridge University Press, 2010). 99-121; "The Historical Self: Memory and Religion at Çatalhöyük," in Ian Hodder (ed.), *Vital Matters: Religion and Change at Çatalhöyük* (Cambridge University Press, 2013).

2 John de Gruchy, *Led Into Mystery: Faith Seeking Answers in Life and Death* (SCM Press, 2013).

human species specificity. In her fascinating studies, especially her acclaimed *Roots* series, Maxine Sheets-Johnstone goes to the evolutionary roots of human cognition, language, and communication, and morality by developing a very pronounced “hermeneutics of the human body” (1990; 1994; 2008). Throughout all her work the emphasis is on the role of the human body in understanding meaning and mind.

In her classic 1990, *The Roots of Thinking*, Maxine Sheets-Johnstone, in a remarkable way, anticipates some of the contemporary discussions on *self* and *embodiment*. Ultimately she argues that the biological disposition to use one’s own body as a semantic template to communicate with others in the most fundamental sense of the word is about symbolic behaviour and conceptual origins (1990:3), or what Steven Mithen later would call the emergence of cognitive fluidity in the embodied human mind (cf Mithen 1996:70,136). Her fascinating thesis is that human thinking is modelled on the body, and it is precisely the sensorily felt and sensorily feeling body that serves as the cognitive source of those human concepts that continuously shaped human thinking and evolution, thus functioning as a semantic template (1990:5,6). It is against this background that Sheets-Johnstone argues that many contemporary answers to the origins of language fall short as they continue to ignore the reality that “no language can be spoken for which the body is unprepared” (1990:135). To this I would add, that exactly the same is true for the evolutionary origins of the moral and the religious sense: many contemporary answers to the origins of the moral and the religious sense fall short if they continue to ignore the reality that no moral or religious disposition could have emerged for which the human body was unprepared.

And it is, of course, this path from embodiment that leads directly to the evolution of empathy and the moral sense. The fundamental embodied roots of morality have indeed been of utmost importance in Maxine Sheets-Johnstone’s most recent work (*The Roots of Morality*) and, I believe, will also get us to the central thesis of John de Gruchy’s book. For Sheets-Johnstone empathy goes to the evolutionary heart of human personhood. Our ability to care, to trust, to empathize and have deep feelings for others is essential to the development of moral awareness and the realization of a fully resonant human being (cf Sheets-Johnstone 2008:193f). As such it gives us access to the mental acts and processes of others, and through empathy we discover the feelings and values of others, what their convictions are, and precisely through this capacity for empathy we ultimately share what Husserl already described as an intersubjective world, that is, a *communally intelligible world* (cf Sheets-Johnstone 2008:194).

Here now clearly emerges a deeply embodied sense of empathy: in completing this argument, Sheets-Johnstone calls for philosophical and evolutionary ways to

understand how empathy is indeed a spontaneous outgrowth of affect attunement (cf Sheets-Johnstone 2008:211.), and as such empathy also has direct links to *Theory of Mind*, i.e., our intuitive knowing of the minds of others. For Sheets-Johnstone this is now enriched by redefining Theory of Mind as getting to know not just other minds, but *getting to know other moving bodies* (cf Sheets-Johnstone 2008:213ff). In principle Sheets-Johnstone thus offers us a fascinating program for how to engage any project in anthropology or ethics that opens up an understanding for a particular form of interanimate meaning, or as I would phrase it, *the evolution of empathy into moral awareness, and a rationality of care* (cf Sheets-Johnstone 2008:215). And moving beyond Sheets-Johnstone to more theological themes, it is this rich revisioning of a profoundly embodied notion of empathy, I believe, that will eventually become a crucial building block for understanding the evolution of morality and of religion.

3. EMBODIMENT IN NEUROSCIENCE

The focus of John de Gruchy's most recent work has been a direct conversation with the neurosciences. In view of that I would like to broaden the argument by showing how the work of two other neuroscientists could in principle function to support de Gruchy's central argument, at least up to a point. The current work of Maxine Sheets-Johnstone on embodiment finds significant support in German neuroscientist Thomas Fuchs' recent development of an *embodied cognitive neuroscience* (cf Fuchs 2009). On this view, the embodied cognition perspective sees mind and brain as a biological system that is rooted in body experience and interaction with other individuals. Embodiment here refers to both the embedding of cognitive processes in brain circuitry and to the origin of these processes in an organism's sensory-motor experience. What emerges here too is a human body that is connected to its environment and to other embodied human beings. Fuchs thus strongly opposes any view that would see the human mind as somehow localized in, or caused by, or identifiable with, the human brain: this kind of short-circuit between mind and brain leads to a conceptual and methodological impasse, for it misses the essentially embodied, relational, and biographical character of the human mind.

Most importantly, and in direct support of Maxine Sheets-Johnstone's phenomenological take on embodied empathy, Fuchs talks about our bodies as *transparent to the world*: human subjectivity is embedded in the world, with the body acting as its mediator. And consciousness as the luminosity, which reveals the world to a subject, is the direct result of this mediation. Miraculously, our bodies, as solid and material objects, are capable of a transformation that turns matter into mind and lets the world appear. In this way the body becomes transparent to the world and allows us to act in it (cf Fuchs 2005b:95f). For Fuchs this goes to the heart

of emotional contagion, attunement and empathy, for we understand the gestures and facial expressions of others immediately: there is an implicit resonance with the expressions of others, while our own bodily and emotional reactions through emotional contagion show how the body works as a tacitly “felt mirror” of the other. And, the discovery of “mirror neurons” in the premotor cortex seems to provide the core neural mechanism of this sensorimotor integration. But observing the other’s movements and gestures implies a transmission of intentions as well: we use the operative intentionality of our own bodies as instruments for understanding the other’s intentions (cf Fuchs 2005b:98).

4. EMPATHY AND ATTACHMENT

The important work on human personhood, and specifically embodied empathy by scholars as diverse as Maxine Sheets-Johnstone and Thomas Fuchs, finds a particularly exciting enhancement in the work of psychologist of religion, Lee A. Kirkpatrick. Kirkpatrick broadens notions of empathy now to include attachment theory, and this now extends not only to the embeddedness of empathy in evolutionary history (as already became very clear in the work of Frans de Waal; cf de Waal 2006), but also to direct implications for religious belief, and particularly for the evolution of religion. In his book Lee A. Kirkpatrick (2005) addresses seminal questions such as, why has religion played such a strong and enduring role in all human cultures throughout history? Rejecting the notion that humans universally possess religion-specific instincts or adaptations, Kirkpatrick argues that religion instead should be seen as a by-product of numerous psychological mechanisms and systems that evolved for other functions. Among these systems are exactly empathy and attachment. Applying attachment theory to religion, Kirkpatrick identifies key parallels between early attachment relationships and adult romantic relationships, on the one hand, and an individual’s perceived relationship with God, on the other hand. Seeing God as an attachment figure offers new ways of thinking about such core religious phenomena/conceptions such as the image of God, prayer, religious development, and conversion. On this view evolutionary perspectives are now greatly influencing the ever-increasing popularity of attachment theory. In fact, for Kirkpatrick the emerging evolutionary perspective attempts something really new: *the tying together of attachment, empathy, love, caregiving, and mating into a larger, coherent framework* (cf Kirkpatrick 2005:51), a framework that now includes a very distinct religious dimension. In fact, Kirkpatrick wants to argue how attachment processes are involved in many aspects of religious belief, and also directly in the evolution of religion itself.

Furthermore, and important for any discussion of the evolution of religious belief, this approach serves as a reminder that the attachment system, and also empathy, is only one of numerous evolved systems for regulating cognition, emotion, and behaviour (cf Kirkpatrick 2005:74). This will invariably lead to the question of how the attachment system maps onto other neurological patterns, for instance, altered states of consciousness, ecstatic experiences, and HADD (Hypersensitive Agency Detection Device), in the brain. Kirkpatrick is, therefore, suggesting that the cognitive-emotional machinery of the embodied attachment system provides a kind of deep structure or universal grammar for thinking about gods or other deities. This cognitive machinery is then employed readily for manipulating these ideas and drawing further inferences from them. Because the attachment-system is species-universal, the influence of this same deep structure is evident in the beliefs about gods in many cultures. At the same time, however, the parameters of the attachment system are set differently in different people by virtue of actual experience, giving rise to individual differences in some of the details of religious belief (cf Kirkpatrick 2005:126). There is also increasing evidence that attachment, with a clear adaptive function in infancy and childhood, functions differently, for evolutionary reasons, in adulthood. In adulthood attachment is “the tie that binds” certain relationships, especially romantic relationships and deep friendships together (cf Kirkpatrick 2005:201f).³

When Kirkpatrick finally turns to the evolution of religion he can now make explicit a general perspective that has been implicit throughout his work: religion is not itself an adaptation; humans do not possess, as part of our species-universal evolved psychological architecture, mechanisms designed by natural selection specific for the purpose of generating religious belief or behaviour as a solution to any particular adaptive problem (cf Kirkpatrick 2005:238). The attachment theory and its embodied empathetic disposition as outlined here should be seen as simply one part of a much broader model in which the attachment system represents just one of many domain-specific psychological mechanisms that have been co-opted in the service of religion and religious belief. Religion activates attachment processes but

3 In this sense the attachment system – already in place for infancy and childhood – was adopted by natural selection as a suite of evolved mechanisms already well designed for the purpose of producing powerful emotional bonds, motivating commitment to a relationship, maintaining proximity between two individuals, and natural selection then reassigned the system the new function in adulthood. Kirkpatrick sees this process of *exaptation* (Gould 1991), in which an adaptation for one function is later co-opted and further evolved for use in solving a different adaptive problem, as indeed a common evolutionary process (cf Kirkpatrick 2005:201).

also many other psychological processes as well, and it is probably this *combination* that is responsible for its widespread success and staying power (cf Kirkpatrick 2005:239). The path from genes to religious belief is, therefore, clearly a very long and circuitous one (cf Kirkpatrick 2005:327).

What is interesting for an interdisciplinary theologian like myself, is that Kirkpatrick leaves open the possibility for positively interpreting the value and integrity of religious belief as he warns against the so-called *veridicality trap*: the common but patently false assumption that if certain beliefs can be understood and explained *scientifically*, then the beliefs themselves are by implication false. On the contrary, there is no reason why any scientific approach to understanding religion need assume that the beliefs under study are either ontologically true or false. To believe that the origins, neuro-psychological or otherwise, of a belief necessary imply that it is not true (because it has been “explained”) is a classic example of the *genetic fallacy* (cf Kirkpatrick 2005:353).

In fact, the human brain/mind was designed according to the sole criterion of inclusive fitness, and is thus designed to be *adaptive*. It is decidedly *not* designed to be “accurate” or “correct” as judged by logical or other empirical standards. Often this leads to correct intuitions and inferences, and being “correct” is indeed often adaptive. Once this is acknowledged, there is no *a priori* reason to believe that any particular kind of belief, whether religious or not, should be expected to be correct or incorrect. The mind is designed in such a way that, depending on any number of factors, it sometimes draws correct inferences and sometimes incorrect ones. In this sense an evolutionary psychology of religion should address the question of why and how people come to hold (or, come to reject) particular beliefs in which we are interested, irrespective of the question of whether or not they are true or false (cf Kirkpatrick 2005:354).

5. NEUROSCIENCE AND RELIGIOUS EXPERIENCE

A radically different view from Lee Kirkpatrick’s non-adaptive views on our very human propensity for empathy, attunement, and religious awareness, but one equally focused on human embodiment, is found in the work of neuroscientist Patrick McNamara. For McNamara it is exactly the deep religious propensities of the human mind that cannot be explained by naturalistic evolutionary accounts of human nature and behaviour only. An interesting and rather bold move in this direction was recently presented in his book *The Neuroscience of Religious Experience* (2009). As a neuroscientist McNamara wants to develop his own central conviction that religion is a defining mark of what it means to be human, as emblematic of its bearer as the web for the spider (cf McNamara 2009:ix). The special focus of McNamara’s work,

however, is to examine the phenomenon of religion through the eyes of the human self. Strikingly, in spite of the self's great dignity and worth, it is still treated by religions as divided, conflicted, and in need of salvation. Most importantly, McNamara argues that there is a considerable anatomical overlap between the brain sites implicated in religious experience and the brain sites implicated in the sense of "self" and self-consciousness, echoing some of d'Aquili and Newberg's work. This accounts for the crucial conclusion that religious practices often operate to support a transformation of self such that the self becomes more like an "ideal self" whom the individual hopes to become (cf McNamara 2009:xi). In this sense religious practices directly contribute to the creation of a unified self-consciousness and to what McNamara calls an ideal "executive self". So, when religions are operating normally they tend to create a healthy, unified, and integrated sense of self. Religions accomplish this feat by promoting a cognitive process that McNamara calls *decentring* (2009:44f.), where religious practices help to build up a centralized executive self.

McNamara's bold claim, then, is that religion is irrevocably a central part of the evolution of symbolic and religious behaviour and of the construction of a centralized, "executive" self. As for the evolutionary status of religion, this implies that religion is not, as is often argued, an unfortunate by-product of more useful cognitive capacities of the human mind. On the contrary, this implies that religion is indeed an adaptation, which is confirmed by the fact that the practice of religious rituals and belief in supernatural agents occur in virtually all human cultures (cf McNamara 2009:249). And it is precisely religion's impact on the problems associated with the self and consciousness that could be seen as adaptive. The self and its default position, the divided self, should thus be taken into account when discussing the evolutionary history of religion (cf McNamara 2009:253).

6. HUMAN DISTINCTIVENESS AS A THEOLOGICAL PROBLEM

I have argued elsewhere that in the interdisciplinary conversation between theology and the sciences the boundaries between our disciplines and reasoning strategies are indeed shifting and porous, and deep theological convictions cannot be easily transferred to philosophy, or to science, to function as "data" in foreign disciplinary systems (cf van Huyssteen 1999; 2006). In the same manner, transversal reasoning does not imply that scientific data, paradigms, or worldviews, can be transported into theology to there set the agenda for theological reasoning. Transversal reasoning does mean that theology and science can share concerns and converge on commonly identified conceptual problems such as the problem of human uniqueness. These mutually critical tasks presuppose, however, the richness of the transversal moment in which theology and the sciences may indeed find amazing connections

and overlapping intersections on issues of human nature and identity. This not only opens up the possibility for converging arguments, from both theology and evolutionary anthropology, for the presence of imagination and religious awareness in our earliest Cro-Magon ancestors, but also for the plausibility of the larger argument: since the very beginning of the emergence of *Homo sapiens*, the evolution of those characteristics that made humans uniquely different from even their closest sister species, i.e., characteristics like consciousness, language, imagination, moral awareness, symbolic minds and symbolic behaviour, have always included religious awareness and religious behaviour (cf van Huyssteen 2006)⁴.

The idea that religious imagination might not be an isolated faculty of human rationality, and that mystical or religious inclinations can indeed be regarded as an essentially universal attribute of the human mind, has recently also been taken up in interdisciplinary discussion by some theologians (cf Shantz 2009). Also Niels Henrik Gregersen has argued that imagination, and therefore also religious

4 Paleanthropologist Ian Tattersall has argued exactly this point: because every human society, at one stage or another possessed religion of some sort, complete with origin myths that purportedly explain the relationship of humans to the world around them, religion cannot be discounted from any discussion of typically human behaviors (1998:201). There is indeed a naturalness to religious imagination that challenges any viewpoint that would want to see religion or religious imagination as an arbitrary or esoteric faculty of the human mind. What has emerged from the work of scientists like Steven Mithen, William Noble and Iain Davidson, Merlin Donald, Ian Tattersall and Terrence Deacon, and should be of primary interest to theologians working on anthropology, is that human mental life includes biologically unprecedented ways of experiencing and understanding the world, from aesthetic experiences to spiritual contemplation – exactly the point now being made by Águstin Fuentes about niche construction. Also Terrence Deacon has made the important point that the spectacular Upper-Paleolithic imagery and the burial of the dead, though not final guarantees of shamanistic or religious activities, do suggest strongly the existence of sophisticated symbolic reasoning, imagination, and a religious disposition of the human mind (cf Deacon 2003:504ff). The symbolic nature of *Homo sapiens* also explains why mystical or religious inclinations can even be regarded as an essentially universal attribute of human culture (cf Deacon 1997:436), and opens up an interesting space for Jean Clottes and David Lewis-William's argument for a shamanistic interpretation of some of the most famous of the paleolithic imagery (cf Lewis-Williams 2002; Clottes and Lewis-Williams 1996). There is in fact no culture that lacks a rich mythical, mystical, and religious tradition. The co-evolution of language and brain not only implies, however, that human brains could have been reorganized in response to language and the environment in a dynamic process of niche construction, but also alerts us to the fact that the consequences of this unprecedented evolutionary transition from *becoming human* to *being human* must be understood on many levels as well.

imagination, is not an isolated faculty of human rationality, but can be found at the very heart of human rationality. On this view, then, the same “naturalness” of imagination also applies to religious imagination, and religious imagination should not be seen as something extra or esoteric that can be added, or subtracted, from other mental states (cf Gregersen 2003:1f, 23). More importantly, though, a theory about the emergence of religious imagination and of religious concepts, of course, does not at all answer the philosophical question about the validity of religion, or the even more complex theological question whether, and in what form, religious imagination might refer to some form of reality or not. As an *interdisciplinary* problem, however, the reasons that may undergird the unreasonable effectiveness of religious belief and thought may transcend the scope of any one discipline when it comes to evaluating the integrity of religious belief. In this specific conversation we can hopefully reach an interdisciplinary agreement that religious imagination and religious concepts should be treated equally with all other sorts of human reflection. Religious imagination should, therefore, be treated as an integral part of human cognition, not separable from our other cognitive endeavours. Clearly early human behaviour is not understood if we do not take this religious dimension into account.

I suggest that a theological appropriation of these rich and complex results of science at the very least should inspire the theologian carefully to trace and rethink the complex evolution of the notion of human distinctiveness, or the *imago Dei*, in theology. Interpretations of the doctrine of the *imago Dei* have indeed varied dramatically throughout the long history of Christianity (cf van Huyssteen 2006:111-162). Theologians are now challenged to rethink what human uniqueness might mean for the human person, a being that has emerged biologically as a centre of self-awareness, identity, and moral responsibility. Personhood, when reconceived in terms of embodied imagination, symbolic propensities, and cognitive fluidity, may enable theology to revision its notion of the *imago Dei* as an idea that does not imply superiority or a greater moral value for humans over animals or earlier hominids, but which might express a specific task and purpose to set forth the presence of God in this world (cf Hefner 1998:88). In theology I would, therefore, call for a revisioning of the notion of the *imago Dei* in ways that would not be disembodied or overly abstract, but that instead acknowledges our embodied existence, our close ties to the animal world and its uniqueness, and to those hominid ancestors that came before us, while at the same time focusing on what our symbolic and cognitively fluid minds might tell us about the emergence of an embodied human distinctiveness, consciousness, and personhood, and the propensity for religious awareness and experience.

7. JOHN DE GRUCHY ON PERSONHOOD

How do we now map these rich interdisciplinary conversations on to John de Gruchy's most recent work? De Gruchy (2013:14) has argued correctly, I believe, that the uniquely human capacity for self-reflection in search of an explanation of "the mysteries of life" should be crucial for any understanding of what it means to be. This ability naturally dovetails closely with our unique capacity for self-deception and hypocrisy, but de Gruchy is correct: this does not mean that there is no truth, wisdom, or genuine insight into the mystery of life and death in the vast reservoir of human reflection over millennia, in the myths we construct and the beliefs we confess (cf de Gruchy 2013:14). And it is also true when death is understood as an inevitable part of the biological cycle of life it does not mean that that this is a "tragic mystery". The mystery does not lie in the naturalness of life or death, but as de Gruchy states, lies in the fact that nobody really understands what it means, if anything at all (cf de Gruchy 2013:14). Which raises the question of the naming of this conference on de Gruchy's work: what is in fact implied by the designation of this important conference as "theology on the edge?" Does it refer to:

- The dangers of interdisciplinary work?
- The danger of losing the integrity of theological reflection in interdisciplinary work?
- Or, the fact that theology, if done responsibly, will take us to the edge of our meaning making abilities, where more than science and scientific methodology needs to take into account what it means to be human?

This is a special challenge for Christian theology, because advances in neuroscience and molecular biology have also led to the claim that we have little if any freedom to choose, and that notions such as "soul", "image of God", personal freedom, purpose, or responsibility should be seen as fictional constructions of the brain. However, as de Gruchy rightly argues, acknowledging the contemporary debate between theology and the neurosciences is indeed critical for understanding who we are, how we should live, and what happens to us in death. Scientific research and discovery are not the only resources at our disposal for understanding the enigma for who we are. In fact, to explore the whole of human reality we also need to step outside the empirical world of the laboratory and be willing to enter the world of the artist, dramatist, musician, poet, of myth-makers, prophets and biblical writers (cf de Gruchy 2013:139f *moi*: science still provides the only "points of no return!").

We do not have to be reductionists, however, to realize that there are no exclusive means of achieving knowledge, morality, meaning, purpose, and faith outside of the

brain. Even our capacity for hope, which is essential for human survival, is hardwired into the brain. Finding these quint-essential human capacities in our embodied existence is, moreover, directly in line with what evolutionary anthropologists are teaching us today. These scientists, including Thomas Fuchs and McNamara, are acknowledging that “faith” (or, rather “imagination”), is central to the way our brains function in making sense of the world and responding to its challenges. So, de Gruchy is right, the brain takes creative leaps of faith whether in science or religion, enabling us to believe the things we cannot prove (cf De Gruchy 2013:147). In fact, some would want to go further and argue that our brains have evolved to respond to God’s self-disclosure (although, for an interdisciplinary conversation I would rather tone that down to a neural propensity, if one wants to keep the conversation scientific and interdisciplinary). In the long process of evolution our minds have evolved from matter, and precisely as scholars as diverse as Paul Ricoeur and Thomas Fuchs have argued, as embodied consciousness, the mind of the human self takes on a dynamic life shaped by memory and imagination.

Precisely in this kind of embodied personhood we can recognize “the emergence of an embodied moral awareness as a holistic, new way of knowing” (cf de Gruchy 2013:162). This is also very close to what I have argued for (cf van Huyssteen 2006) in the understanding of the “knowing of good and evil” as situated within the myth of the so called “Fall”, but then as a unique falling “upwards”: we can indeed distinguish between good and evil, and by being free to decide, we are prone also to make irresponsible, self-destructive and therefore “sinful” choices (cf de Gruchy 2013:153). So, are we morally responsible and accountable for what we do, or are we determined by our genes, or by God, in specific ways? Rising above these reductionist “either/or” answers, de Gruchy embeds this question of free will into the broader discussion of “body and soul” and how a conception of personhood is clarified in making this argument. Biblically and theologically speaking body and “soul” belong together, or as de Gruchy puts it: a human being is body and soul (cf de Gruchy 2013:159). De Gruchy then asks: would it not be better to lose, or let go of the idea of “soul” altogether and simply refer to the human person, and as such implying both our physical connection to all other animals while at the same to implying our imaginative distinctiveness within the animal world?

Where de Gruchy would answer “no” to this question, I, however, would argue “yes”. For John de Gruchy an affirmation of the concept “soul” helps us to see the value of such a term as representing something more complex and significant, that is, the ability to talk about the soul of being a human, as that which makes us distinct, and so convey better the mystery and complexity, the dynamic and dignity of being human (cf De Gruchy 2013:160). De Gruchy does acknowledge that neuroscience rightly

presents a radical challenge to traditional views of the soul as a “discrete element” in the body, whether identified with rationality, the self or consciousness, or as an immortal entity. I suggest that we may plausibly drop the term “soul,” which as a more religious or poetic term does not transversally integrate easily with the scientific and philosophical issue of our embodiment and embodied consciousness. We might then rather follow neuroscientists like McNamara and Fuchs, and neuropsychologists like Kirkpatrick, in radically rethinking consciousness and empathetic awareness as the embodied definition of what it means to be fully human. On my view, then, this notion of “person” works well for everything de Gruchy would want the concept of “soul” to achieve.

8. CONCLUSION

Now it finally becomes possible to tentatively ask questions about how these perspectives from evolutionary anthropology and neuroscience might inform our contemporary notions of human personhood, how it enlightens our views of human evolution, and also, finally, what its implications might be for theological anthropology, and quite specifically for the iconic notion of the *imago Dei*? As possible answers to these complex questions I propose the following theses:

i) The strong interdisciplinary convergence between theology and the sciences on the question, “what it means to be human,” presupposes arguments from both evolutionary anthropology and palaeoanthropology, not only for the presence of religious awareness in our earliest prehistoric ancestors, but also for the plausibility of the larger argument: since the very beginning of the emergence of *Homo sapiens*, the evolution of those characteristics that made humans distinctively different from even their closest sister species, i.e., characteristics like consciousness, language, imagination, and symbolic minds and behaviour, most probably always included some form of religious awareness and religious behaviour. Presupposed in this argument, however, is the remarkable degree of adaptability and the versatility of our species. *Homo sapiens* indeed emerged as a result of its ancestral lineage having persisted and changed in the face of dramatic environmental variability, and having coped so successfully with interactive niche construction. It is this versatility that also gives new depth to the kind of human symbolic capacities that Eva Jablonka and Marion Lamb (2005), and also Agustin Fuentes have highlighted in their recent work (cf Fuentes 2009, 2010, 2014), and that archaeologist Rick Potts has called the “astonishing hallmark of modern humanity” (cf Potts 2004).

ii) Within the dynamic context of this wider interdisciplinary conversation, theologians are now challenged to rethink what “human distinctiveness” might mean for thinking about the human person, a being that has emerged biologically

as a centre of self-awareness, identity, moral responsibility, and imagination. Personhood, when reconceived in terms of embodied imagination, symbolic propensities, and cognitive fluidity, may enable theologians to revision their notion of the *imago Dei* as an idea that does not imply any superiority over, or a greater moral value than animals or earlier hominins, but which might, theologically speaking, interactively embed theological notions of human distinctiveness in current evolutionary thinking. I would, therefore, call for a revisioning of the notion of the *imago Dei* in ways that would not be overly static or abstract, but which would instead acknowledge our embodied existence, our close ties to the animal world and *its* uniqueness. Such a notion of the *imago Dei* will deeply respect those hominin ancestors that came before us, while at the same time focusing on what our symbolic and cognitively fluid minds might tell us about the evolutionary emergence of a distinctly human embodied consciousness, and personhood, and the propensity for religious awareness and experience.

iii) In this paper I have argued that the question of the emergence of the historical self in prehistory can never be disentangled from the broader issue of the evolution of embodied human personhood, and, therefore, from evolution of religion and of religious behaviour. This implies that the evolution of distinctive traits and aspects of personhood like morality, sexuality, language, empathy, and the evolution of the religious disposition, played a defining role in the evolution of human communication and interpersonal attachment, and along with the evolution of complex symbolic and religious behaviour, combine to give us important insights into human evolution.

iv) I believe that various scholars (cf as cited in van Huyssteen 2006; 2009; 2010; 2014), have made good arguments for the fact that religion in itself is not adaptive. We humans do not possess, as part of our evolved neurological and psychological architecture, intuitive mechanisms designed by natural selection specifically for the purpose of generating religious beliefs or behaviour as a solution to particular adaptive problems. However, distinctive neurological traits like empathy, Theory of Mind, attachment, altered states of consciousness, HADD, and the evolution of the moral sense/intuitive morality, should all be seen as part of a much broader niche in which many domain-specific mechanisms have been co-opted in the service of religion and religious belief. Religion thus activates attachment processes, but also many other processes like altered states of consciousness and HADD, and it is most probably this combination that is responsible for the widespread success and staying power of religious belief (cf Wildman 2009).

v) Religion and religious faith, in other words, is evolutionarily conditioned, possibly in a few special respects by virtue of the adaptiveness of specifically religious traits,

but in most respects by virtue of side-effects of traits adapted for some other, primarily non-religious purpose (cf Wildman 2009; van Huyssteen 2014:1311f). Understanding human evolution, as well as specifically religious awareness, in evolutionary terms, reveal religion and religious experience predominantly as a combination of side-effects of both adapted and non-adapted features of the embodied human, and might be the most plausible hypothesis for beginning to understand the evolution of religion and religious behaviour. Thus religious and spiritual experiences arise from a suite of bodily capacities with neurological and sensory roots and with vast existential and social impacts (cf Wildman 2009:56,141). For my own interdisciplinary research it is, therefore, significant to think through further the theological implications of this debate where we come to understand imagination, and religion, as of primary importance for understanding the evolution of the human self. This takes us back exactly to the kind of questions that John de Gruchy has so poignantly raised: God's presence and mysterious action in the world, the perennial (and I believe insoluble) *theodicee* problem, human consciousness, the problem of free will, life after death, and the question of mind, body and soul.

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