

Reflections on Wentzel van Huyssteen's Alone in the World?

PRIMATES AND RELIGION: A BIOLOGICAL
ANTHROPOLOGIST'S RESPONSE TO J. WENTZEL
VAN HUYSSTEEN'S *ALONE IN THE WORLD?*

by Barbara J. King

Abstract. For a biological anthropologist interested in the prehistory of religion, J. Wentzel van Huyssteen's book is welcome and resonant. Van Huyssteen's central thesis is that humans' capacity for spirituality emerges from a transformation of cognition and emotions that takes place in the symbolic realm, within *Homo sapiens* and apart from biology. To his thesis I bring to bear three areas of response: the abundant cognitive and emotional capacities of living apes and extinct hominids; the role of symbolic ritual in the evolutionary history of *Homo sapiens*; and the closely intertwined nature of biology and culture in the workings of evolutionary change.

Keywords: apes; emotion; evolution; hominids; primates; religion; ritual

One unseasonably cold day during Easter week 2007, I gazed at a fountain on the grounds of the Cathedral Church of St. John the Divine in Manhattan. The Peace Fountain is a large, striking bronze sculpture that jumbles together images from religion and science in an arresting way. The fountain's great pedestal twists into a DNA helix; a giant crab signals life's origins in the seas. The sun and the moon indicate the cosmos. "Nine giraffes," as the sign's fountain puts it, "nestle and prance around the center." One of the giraffes rests its head on Michael, the archangel who fights Satan, indeed who decapitates Satan; the horned (and severed) head dangles upside

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down for all to see. All around the fountain's perimeter are tiny statues fashioned by children, each of an animal—a bear, a seal, a chimpanzee, and many more.

Standing there in the cold, with my family gone ahead to shelter in the cathedral's immense interior, I felt moved by the very solidity of the religion-science nexus depicted in the Peace Fountain. In this work, religion and science are melded in the most concrete terms. The interpretations may be dynamic, but the work stands as is it, sure in itself, an anchor point in a time when there is much uproar around whether or how to bring religion and science together (Hefner 2006).

Right from the opening of *Alone in the World?* (2006), where J. Wentzel van Huyssteen describes a previous book of his, I recognized a similarly solid anchor point: "The development of a postfoundationalist notion of rationality helped me move beyond any position that would want to regard either science or theology as a superior form of rational thinking" (p. xiv). As subsequent passages explain, these Gifford Lectures aimed to bring theology and the study of human origins together in order to see what may happen: "[T]heological anthropology has much to learn from human origins, from the dimensions of meaning in which *Homo sapiens* have always existed, and from our close relationship to other animals" (pp. xiv–xv).

This embrace of human-origins studies resonated with me immediately, as the Peace Fountain would resonate with me later. In a time when voices are too often joined in strident debate about religion and science, when even the nonfiction bestseller book list reflects a passion for militant separatism, van Huyssteen's words not only bring together religion and science but do so via a question that has intrigued me for 25 years: In what ways are *Homo sapiens* special and distinct from other animals? Or, as I tend to frame the issue: In what ways do other animals share with humans those qualities of being and relating that we tend to think of as uniquely human?

Scientists accept that modern humans are unique in the way that biological definition requires each species to be unique. The gelada baboon *Theropithecus gelada* that forages on the grasslands of Ethiopia, and the common house spider *Achaearanea tepidariorum* that no doubt makes it way around the dusty recesses of my clothes closet, are each adapted to life on earth in specific ways not found in any other species. Humans are no different from baboons and spiders in this respect. Scientists wish, however, to grasp something more *meaningful* about continuities and discontinuities in the animal world, perhaps most particularly between humans and our closest relatives in the order *Primates*, for example the living apes and extinct hominids. We have known that the human is not the only primate to make and use tools under natural conditions since the day Louis Leakey cabled to Jane Goodall, in Tanzania, that her studies of wild chimpanzees made us redefine *human*. Other questions, though, are open. What are the continuities and discontinuities across living primates as to highly

complex social life, emotion, meaning making, and language? Was change over time in their expression during the course of evolution, from the common ancestor shared by the ape and human lineage through early australopithecine hominids to *Homo*, of a gradual nature? Did the human religious imagination itself evolve gradually, or did it emerge full-blown to set *Homo sapiens* completely apart from all other species, living and extinct?

It is with these questions that van Huyssteen brings to bear a specific, situated argument, the idea “that the capacity for spirituality can be understood as an emergent consequence of the symbolic transformation of cognition and emotions” (p. xvii). His perspective respects the transcendent nature of relating with God, gods, and spirits that has characterized all human societies and yet engages directly with the evolution of human intelligence and emotionality.

In this essay I take up van Huyssteen’s call for opening a dialogue between theology and paleoanthropology, responding to aspects of his book from a situated place: the discipline of biological anthropology. From this place, and within a framework of resonant agreement with what he is trying to do, I probe some assumptions or conclusions that, I believe, the data from biological anthropology (primate studies and paleoanthropology together) push us to rethink. My goal is to evoke consideration of new questions that can be taken up by scientists and theologians in further dialogue.

THREE POINTS OF CONSIDERATION (AND CONTESTATION)

Relationality is the key to my evolutionary perspective on the origins of religion. That is, I wish to describe an ancient relationality, present since the dawn of the human lineage, that enabled, in part, the evolution of the human religious imagination. I view the emotional relating between social partners as a creative process in human evolution. Weaving together points of agreement with those of contestation, I focus on three main ideas:

1. Embodied persons are crucial to the dialogue van Huyssteen wishes to have, just as he asserts, but equally so are embodied early hominids (now extinct) and embodied apes (living in the modern day). All, to varying but continuous degrees, are, or were, emotional actors embedded in their social groups who transform others around them through mutual action and relationality.
2. Cave paintings and Late Stone Age African symbols are key to understanding the nature of *Homo sapiens*’ lived experiences, just as van Huyssteen asserts, but equally so is the paleoanthropological record that points to more ancient rituals that were symbolic in nature and, in some places during certain periods, highly likely to have been spiritual in nature.
3. Emergent from the foregoing ideas is an understanding that biology and culture are closely intertwined; cleaving the two is untenable.

When van Huyssteen writes of human cognition as “a mediator between biology and culture” (p. 49) and suggests that our species “clearly transcend[s] our biological origins” (95), he misses the very richness of an evolutionary perspective, a richness that insists our origins were at once biological and cultural. In putting forth this point, I define culture broadly as the sum total of a group’s socially and emotionally based lifeways.

In short, my perspective amounts to this: Though religiousness—the human religious imagination—is unique to our species, it emerged from deep evolutionary roots. It is not *determined* by these roots but rather *enabled* by them. An understanding of human religious behavior today is strengthened by an understanding of its origins and of the idea that those origins lay in both biology and culture.

In keeping with van Huyssteen’s wish to expand and transform our thinking through interdisciplinary dialogue, I expand on these three ideas in turn. I am obliged to present them in a relatively condensed version here; my book *Evolving God* (King 2007) offers a more detailed account.

EMBODIED AFRICAN APES AND EARLY HOMINIDS

Deeply relational beings, the African apes exhibit evidence of emotional connection with family and other close social partners, an ability to take the perspective of others in certain situations and feel empathy for them, and complex cognition in problem solving. Further, the behavior of these apes, for example in using tools or communicating, tends to vary across populations in ways that cannot be traced to differences in ecology or physical environment but that relate instead to patterns shared across or within generations. In the primatological literature, this population variability is often called *culture* (McGrew 2004; Whiten et al. 1999; but see King 2004). Chimpanzees are said to “have culture” based on examples like this one: In East African populations, chimpanzees forage with tools differently than do chimpanzees in West African populations, even though the same tool materials and food items are available in both places. This concept of culture, narrower in scope than the one I use in this article, should not be confused with my usage.

Such emotional and cognitive capacities and behavioral patterns of African apes are robust across species and habitats, compared to, say, the variable specifics of social organization or tool-using techniques. It is, then, a low-risk strategy to suggest that the common ancestor of apes and humans quite probably behaved in ways that reflect a similar suite of capacities and patterns. (It is not risk-free, because any behavioral pattern in an extant species *might* be recently evolved. For a divergent pair of views on how modern ape behavior may relate to our hominid past, contrast Byrne 2004 with Potts 2004).

The African ape and human lineages split about six million years ago. As evolutionary time went on, emotional expression deepened and intelligence expanded in our bipedal hominid ancestors. Entwined as they were and are, these emotional and intelligence-based capacities grew and transformed us into creatures capable of, and in some cases yearning for, a relationship with the supernatural. What I want to do is explore the evolutionary platform for that transformation. The behavior of today's African apes suggests to us that at the dawn of the human lineage our earliest ancestors behaved with empathy, co-created meaning in their lives with social partners, and were conscious creatures (see also Bekoff 2003; 2007).

But first, let's back up a bit. My work involves research on the behavioral patterns of gorillas, chimpanzees, and bonobos, our closest living relatives in the animal kingdom, and what those patterns may tell us about the deepest roots of religion. My approach differs from that of Goodall, world-famous chimpanzee expert, who ponders a direct link between chimpanzee awe or contemplation and early humans' spiritual behavior. In an interview with Kimberly Patton and Paul Waldau, she describes what Gombe chimpanzees do when they display in front of a waterfall: "These performances really are like a kind of primitive dance, because they're very rhythmic, very different from the normal display." For Goodall, these displays and similar behaviors are "expression[s] of what I think is a spiritual reality" (Goodall 2006, 653–54). This line of thinking is fascinating but is not one that I pursue; I make no attempt to discern direct continuity between ape behavior and human spirituality or religiosity. Rather, I seek the deepest roots for exactly those aspects of human life most focused on by van Huyssteen: emotion and symbolic practice.

My argument is that the behavior of chimpanzees, bonobos, and gorillas in the wild and in captivity reflects evolved capacities for empathy, meaning making, and consciousness. *Empathy* is perhaps the most well-developed expression of emotional connection in apes (see de Waal 1996; 2001; 2005). When the enculturated chimpanzee Washoe saw her friend (and ape-language researcher) Roger Fouts approach with his arm in a sling, she used American Sign Language to say, "Hurt there, come." When Fouts came closer, Washoe kissed his arm, newly fractured in a skiing accident. Washoe's ten-year-old adopted son did not request a favorite chase game of Roger for several weeks, a significant departure from his typical behavior (Fouts and Fouts 2000; see King in press).

However, empathy of this sort in apes does not depend on language skills. Whenever I speak or write on this topic, I borrow an anecdote from the field report of Swiss biologist Christophe Boesch at Tai National Park in the Ivory Coast: Female chimpanzee Tina was killed by a leopard. Members of her community surrounded the body for hours. The community's alpha male, Brutus, controlled which individuals were allowed to approach the body. Of the infants, only one, Tarzan, was allowed to do this. Tarzan

was Tina's younger brother; the two had been close, perhaps especially in the wake of their mother's recent death. Tarzan sat at the body and gently tugged Tina's hand (Boesch and Boesch-Achermann 2000).

In my experience, people who are told or read of this event find it to be a powerful one. Why? Doubly significant, the Tina anecdote indicates not only the depth of chimpanzees' emotional connection but also that chimpanzees may express—judging from Brutus's behavior—an *awareness* of others' emotional connections. As I have already noted, apes are relational from the very start of their lives. They are born into complex communities with emotional ties as part of their everyday existence. Does this mean that empathy in apes is part of biology or of culture? It means both, I think, because empathy is at once brain-based and socially emergent.

A note about interpretive methods is needed here. Any judgment that the behaviors of Brutus or Washoe and her adopted son translate as empathy has to be understood as derived only in part from the observable events themselves. Primatologists have built up a large corpus of case studies that, in toto, suggests in a robust way that African apes feel and express empathy. Any single case must be examined critically, and alternatives to a claim of empathy must be considered carefully. In dealing with empathy or indeed with any of the potential building blocks of religiosity that do not lend themselves to controlled experimentation, the most rigorous approach is to consider the details of each new case against a data bank of fully described examples.

Meaning making certainly has to be assessed in this manner. When two or more apes come together and mutually adjust their actions to negotiate or converge on some outcome, in many cases they do more than send and receive simple messages. That this process amounts to meaning making is a judgment based on G. H. Mead's definition of meaning as constructed through adjustive response (see King 2004, 6) and on a premise that language need not be present for meaning making to occur (see Grandin and Johnson 2005).

In an event captured on videotape by researchers at the Language Research Center at Georgia State University, the bonobo Panbanisha is seen out for a walk in the Center's large wooded area. Like her more famous brother, Kanzi, Panbanisha interacts with the world through lexigram symbols on a keyboard and comprehends some degree of human speech (Savage-Rumbaugh and Lewin 1994; Segerdahl, Fields, and Savage-Rumbaugh 2005). In the video recording, after swinging from a tree in play with a human companion, Panbanisha experiments with driving a golf cart, and then jumps on the family dog. The dog squeals, apparently in pain. Researcher Sue Savage-Rumbaugh grabs Panbanisha's face and firmly moves it right up to the lexigram board, then presses the symbol for "bad" (which causes the mobile computer to utter "bad" in a synthetic voice). To this, Panbanisha has a visibly emotional response; anyone who reads human

face- and body-language could, I believe, read alert attention coupled with emotion in Panbanisha's body and face. She goes still, then presses another lexigram in reply: "Good."

Use of lexigrams was not *taught* to Panbanisha or to Kanzi; these apes' language skills emerged because the apes lived in a highly enriched cultural environment filled with cultural routines, just as children's lives are filled with cultural routines through which they learn language. What the video recording, and the work with Panbanisha and Kanzi more generally, tells us is that bonobo biology may be transformed by bonobos' emotional engagement with others and thus that biology and culture are mutually transformative. What an ape can do is not determined by its genes or by fixed brain capacities—a lesson that surely is relevant to our understanding of child development (see Fogel, King, and Shanker 2008).

Like empathy, meaning making is not dependent on language or language-like symbols. Primatologist Suehisa Kuroda has shown in a beautiful field report (1984) that free-living bonobos in the Democratic Republic of Congo come together to converge on one meaning among many possible meanings for an ape's upper-body rocking behavior. (For many more examples, see King 2004.)

Apes are complicated beings. Like humans, they are far from inevitably empathetic. They may be violent in committing infanticide and other types of murder. Like humans, their meaning-making processes sometimes break down. My aim is not to paint apes as gentle creatures who always converge on shared meanings and always negotiate with their social partners but rather to suggest something of the complexities of which they are capable. Indeed, the larger significance of interpretations such as the events I have noted here is captured by Temple Grandin and Catherine Johnson, who cut cleanly through any necessary correlation between language and consciousness, noting that "although language does make thought more abstract, without language you can think more abstract thoughts than probably anyone has believed possible" (2005, 260). Read Grandin, read Goodall, read Frans de Waal; spend some time with African apes (together with someone who can interpret their behavior); the same conclusion emerges. If consciousness means being able to feel and think about events, African apes are conscious beings.

I do not agree with van Huyssteen's conclusion that "There is indeed only one line that leads to persons, to self-awareness and consciousness" (p. 28) if he restricts consciousness only to humans, as I believe he does. Yet there is an openness to the writing here, because he allows that "various levels of consciousness extend over, and deeply connect, the animal and human world" (p. 42). This claim is a more specific instantiation of a theme woven throughout the book, that "we cannot understand whether we really are unique, and how unique we may be, without also knowing the full extent of what we share with our closest relatives" (p. 166). The

principle is absolutely right; the data from primate studies push the principle to a clear conclusion. To state it once more, African apes are conscious beings.

From this ape evolutionary platform came a fundamental change early in the hominid lineage: bipedalism. Walking upright led to a cascade of changes, none more important than that mothers began to put down their babies for periods of time instead of transporting them continuously in a ventral or dorsal cling as they moved along quadrupedally (or via knuckle walking or brachiation). This shift brought about greater emotional attunement, an elaborated dynamic dance of reciprocity and co-created meaning, as mothers and their babies engaged in emotional signaling back and forth. Mothers had to figure out their babies' needs at a distance, and the emotional signaling encouraged infants and juveniles to begin to think symbolically and acted as a selection pressure on the brain for language (Falk 2004; Greenspan and Shanker 2004). Thus van Huyssteen is correct when he notes, in considering the work of archaeologist Steven Mithen, that changes in our cultural behavior can change our biology, but "our" must be seen to include our closest relatives—extinct and living—as well as our modern selves.

SYMBOLIC PRACTICE IN HOMINIDS

How can we track the religious imagination that emerges from a starting point of the just-described evolutionary platform?

Study of apes awakens us to the knowledge that the processes of human evolution operated on flesh-and-blood, feeling and thinking individuals, dyads, families, and groups. Mothers cradled their babies and related with them on an emotional level. Adults made alliances with some partners and not others. Life changed day by day, not only in terms of available food and dangerous predators but also in the dynamics of lived experience within groups. A linear sequence of cumulative milestones—first manufactured stone tool kit, first fire taming, first successful big-game hunting, first act of cave painting, and so on—may be the stuff of museum dioramas and textbook images, but they fail to convey the full story of human evolution.

Here is my working hypothesis: From the ape/human split point at six million years ago, through the time period of early agriculture and animal domestication (I'll choose an arbitrary end point for my consideration of ten thousand years ago), the human lineage experienced relatively gradual and continuous deepening of consciousness, including empathy, meaning making, and consciousness. The brain increased in size and interconnectivity. Along the way can be found intriguing hints of meaning making in material culture and, later, of symbolic ritual that at times may have centered around an incipient spirituality.

Discussing this hypothesis thoroughly is challenging, and testing it is far more so. On issues related to spirituality, the paleoanthropological record

is not merely dim but in fact completely dark quite far along. For the first three million years, this record amounts to fossil bones and an occasional piece of material culture, with stone-tool artifacts appearing at 2.5 million years ago. Even for some way past this point, though, only a glimmer comes to us through the millennia about how our ancestors may have experienced the world emotionally, as opposed to survived in it physically.

A hint, admittedly a faint one, comes from South Africa. Hominids, possibly australopithecines, used a cave about three million years ago and carried into it a piece of jasperite that has become known as the Makapansgat cobble. On this half-pound object are found three depressions that convey, to many, an impression of a human face (Bednarik 1993). Hominids did not modify the jasper in any way, much less create the face itself; it is a manuport (object carried in the hand), judged so based on the fact that it is of material neither natural to the cave nor carried there by any identifiable nonhuman agency.

Why would our ancestors, bipedal creatures with ape-sized brains, carry around such an item? I have suggested that, based on African ape behavior, it makes sense to assume that these hominids were conscious, with relatively well-developed abilities for empathy and meaning making. Could carrying the cobble mean that these creatures recognized an image of themselves in it? If this speculation is on the right track (as I expect it is, based on what we know about the capacity of apes to recognize themselves in mirrors), we are dealing with hominids for whom iconic representations of themselves *mattered*. There is no way to know whether this manuport behavior amounts to more, for example to some kind of symbolism. For the face to be a symbol, some kind of arbitrary and socially conventionalized meaning would have to have been attached to it, and this is far from apparent.¹ Yet meaning making of some sort seems likely to have been involved.

Archaeologist Brian Hayden (2003) asks whether the cobble conveys the first inklings of the notion of a soul or afterlife in prehistory. He is quite correctly equivocal about the answer, but I wonder if it is wise even to linger long on the question. With only a single cobble and no way to recover meaning-making processes at three million years ago, scientists may be better off to refrain from guessing about specific meanings, spiritual or otherwise.

Hominid-made tools enter the fossil record a half million years after the cobble. A correlation, however imperfect, exists among developing stone-tool technology, the developing human brain, and deepening emotional processes, right through the origins point for our own species at 200,000 years ago (Greenspan and Shanker 2004). There is much of interest to say about the probable transformations in the human imagination that mark this immense sweep of time, but I pick up the paleoanthropological record at the time period of Neandertals and early *Homo sapiens* because this era is the most relevant in the context of van Huyssteen's thesis.

With both Neandertals (a species destined for extinction) and early *Homo sapiens* (our own species), the realm of symbolic practice through ritual comes into play. In certain cases, the evidence invites consideration of a spiritual interpretation.

At the cave site of Regourdou in France some 65,000 years ago, Neandertals gathered to bury one of their tribe mates. They put the body, in a crouched position, into a depression in the earth. They laid bear bones at its foot and a slab on its chest, and a bone and stone tools onto the slab, then covered the entire body with ash and rocks. The grave itself was marked by antlers. Some archaeologists think this burial was part of a larger ceremony akin to a bear-meat fest (Hayden 2003). The specifics of this proposed funerary ritual are up for debate, but to my mind there's clearly *some* kind of symbolic expression by Neandertals going on, a process of group consensus or meaning making that turns bones into something more than bones and invests tools with a purpose in death.

That symbolic practice is involved broadly in the Neandertal world depends on a contextual analysis of Neandertal lifeways, just as a claim for chimpanzee empathy depends on a contextual analysis of great ape emotion and cognition.

First, think about how finely tuned the Neandertal emotional repertoire must have been compared to that of our earliest hominid ancestors millions of years before. The brain had evolved, and along with it technology, hunting, fire making, burial rites, and depth of emotional expression. Mithen gives primacy to this emotional expression by correlating it with survival: "The Neanderthals could only have survived for so long in the challenging ice-age conditions of Europe if they were not only capable of feeling happy, sad and angry, but also suffered the pains of guilt, shame and embarrassment, along with the elation of love" (2005, 88).

Mithen's projection of shame or embarrassment or love into the past is not wholly comfortable for all anthropologists, who know that the expression of emotion varies considerably across human populations today, so that these labels do not map onto some discrete emotion that is experienced or expressed universally. Still, Mithen is on the right track in bringing to the foreground what is too often ignored in the study of prehistory.

Mithen writes too about Neandertals as creative, and new findings in material culture support this characterization. One compelling example suggests a change from an ancient interest in a facelike object (the Makapansgat cobble) to active creation of a face image. The so-called French mask, from the Loire Valley in France and dated to 35,000 years ago, "finally nail[s] the lie that Neandertals had no art," as Paul Bahn puts it.² Neandertals modified a triangular piece of flint to heighten its facelike qualities: they removed flakes in a patterned way, then shoved a piece of bone through a hole, fixing it there with two pebbles. The result is striking—a face. Two thousand years later, Neandertals at Arcy-sur-Cure, also

in France, tied animal teeth to string and fashioned a kind of necklace (Zilhao and d'Errico 2003).

Mithen goes further. Although he is highly skeptical of published claims that the world's earliest flute was dated to Neandertal times (supposedly fashioned by Neandertals from bear bone), he is confident that Neandertals created and appreciated music. In *The Singing Neanderthals*, he discusses a "5 metre by 4 metre quadrilateral structure constructed from pieces of stalactite and stalagmite" that sits several hundred meters in from the entrance of Bruniquel Cave, France, and is dated to about 47,000 years ago. "What they used it for," writes Mithen, "is unclear; other than the structure and burnt bones there were no other signs of human presence. My guess is that it was the scene of . . . singing and dancing" (2005, 242). Mithen grounds this view in an assessment that Neandertals were highly attuned to the acoustics of their environment, stressing once again the harsh quality of life in the Neandertal world:

There is unlikely ever to have been a population of humans—modern, Neandertal, or otherwise—for whom the creation of a social identity to override that of the individual was more important. For that, music is likely to have been essential. This is the case for modern humans: when living in conditions of adversity, they make music. Such music enables intense social bonding and facilitates mutual support. I have no doubt that the Neanderthals behaved in exactly the same way [and that they participated in communal singing and dancing]. (2005, 236)

Certainly, nothing of what we know of Neandertal physiology, behavior, or intelligence constrains this conclusion of Mithen's. His scenario, together with the examples of marked burial, art, and self-adornment, indicate an engagement by Neandertals with symbolism. But was it in any cases symbolism of a spiritual nature? Does an awareness of death (as evidence by the burial rituals) and a preoccupation with dark caves (as at Bruniquel and elsewhere) hint at preoccupation with a realm beyond the here and now, a realm into which they poured awe, wonder, and worry?

I am sympathetic to Philip and Carol Zaleski's (2005) suggestion that, if we understand prayer as action, Neandertals might have been the first beings in the world to pray. Is this idea a testable one? No. Is it consistent with evidence? To say Yes may be going too far, but as speculation it is not wild or unreasonable. If van Huyssteen does not wish to go this far in linking the Neandertal evidence with incipient spirituality, there is still much space here for an interdisciplinary dialogue to explore the Neandertals.

The most convincing aspect of a claim for Neandertal spirituality, to my mind, concerns these people's awareness of death and their clear possession of some sort of aesthetic sense. When they gathered around a grave of someone they had felt emotional attachment to in life, could they have failed to think about what lies beyond life? When they entered dark cave passages, and perhaps chanted and danced collectively there, could their emotions have failed to spill from the realm of the here-and-now to the

mysterious realm of the otherworldly and the sacred? We cannot tease evidence out of the prehistoric past to answer these questions, but in this case I do think raising them is a welcome practice, a practice that contrasts with van Huyssteen's. By citing approvingly Ian Tattersall's perspective, van Huyssteen dismisses the meaning of the Neandertal archaeological record far too easily, concluding that with *Homo sapiens* we see a totally new type of creature in the world, "if not genetically, then at least culturally" (p. 190).

Beyond an acknowledgment of symbolism and potential spirituality in the Neandertal world, something else is missing in this section of *Alone in the World?* When considering modern human origins, van Huyssteen acknowledges that we must avoid too Eurocentric a point of view, but the problem is still one of emphasis. Some key sources that push back the origins of symbolism and situate it outside Europe are duly mentioned, whether focused on specific sites like Blombos (Henshilwood et al. 2004) or general patterns (McBrearty and Brooks 2000), yet van Huyssteen's emphasis is pointed—and his direction points *away from* early *Homo sapiens* sites in Africa, just as it points away from Neandertals' symbolism.

When I consider the mollusk-shell jewelry and geometric incisions on ochre found at the older-than-70,000-year-old seaside site of Blombos in South Africa, and reflect on the burial behaviors and artistic creations of the Neandertals already described, I do not see exceptions to a pattern centered in Western Europe. Rather, I think: Here is a tipping point, not long after 100,000 years ago, in the evolution of human symbolism.

The cave paintings of western Europe are glorious and meaningful clues to our understanding of human symbolism and spirituality; van Huyssteen mines them so deeply, I need not rehearse the evidence here. Perhaps helpful is a broadening of the focus on creativity to consider what kind of meaning making could lend the cave images their fullest human significance. The chanting, singing, rhythmic moving or dancing, and other emotion-based relational activities, perhaps including shamanic activities, that many scholars believe typify this era of cave usage (see Hayden 2003; Mithen 2005; Lewis-Williams 2002) may have been central.

Where does all this leave us? In the first instance, it forces a realization that the listing of uniquely modern-human traits (p. 203) is a singularly unsatisfying activity. Indeed, listmaking of this sort has never been a reliable or productive scholarly strategy. The history of science tells us that any such list is wholly dependent on what questions are explored in animal-behavior studies. Before 1960, after all, we had no idea that every population of chimpanzees in Africa lives, in its own patterned way, with tool making and tool using part of the fabric of everyday existence. In 1959, "man the [unique] toolmaker" was a reasonable definition. It is now arguable, from the ape studies cited above, whether even "humans the [unique] culture-and-language creator" is an accurate definition. (See Watanabe and Smuts 2004 for a fascinating discussion of symbol and ritual

in free-ranging baboons; that baboons are monkeys, and not apes, makes it only more fascinating.)

While van Huyssteen accepts that “It is language that engages the interactive minds of the social group, and that enables the social world beyond the individual’s own lifetime to be defined symbolically” (p. 226), he nevertheless insists that language evolved late in human origins and restricts symbolic communication only to *Homo sapiens*. Although he acknowledges that “More than any other species, hominids’ behavioral adaptations have determined the course of their physical evolution” (p. 237), he then focuses on processes like tool making, when far more foundational are emotional transformations and nurturing processes. I believe that evidence discussed in this essay renders the claim false that modern humans are unique in having the capacity for abstract thinking or planning depth or behavioral innovation or explicit symbolic behavior.

If we move beyond lists, where do we go? Let us explore closely a particular passage of van Huyssteen’s:

Since the very beginning of the emergence of *Homo sapiens*, the evolution of those characteristics that made humans unique from even their closest sister species, i.e., characteristics like consciousness, language, symbolic minds and symbolic behavior, is directly related to religious awareness and religious behavior. And it is precisely because every human society, at one stage or another, possessed religion of some sort, complete with origins myths and rituals that purportedly explain the relationship of humans to the world around them, that religion cannot be discounted from any discussion of typically human behaviors. (p. 213)

Based on the ape and ancestral-human data, my own version of this paragraph would come out like this: Since the very beginning of the emergence of our human lineage, our ancestors had consciousness. The characteristics that would fully elaborate in *Homo sapiens*—language, symbolic minds, and symbolic behavior—evolved gradually in these ancestors, and enabled religious awareness and religious behavior, which also evolved gradually and included origins myths and rituals. Religion cannot be discounted from any discussion of evolved human behaviors.

SACRED HUMANITY: CONCLUSIONS

Emotional, relational, symbolic, and ritual-oriented behaviors evolved over time in our ancestral lineage and formed a foundation for engagement of early *Homo sapiens* with the sacred. These sacred behaviors were no doubt locally variable, suited to their own time and place; none was identical with expressions of modern human religiosity, which of course are also locally variable. Yet our past was *continuous with* and *necessary for* modern religiosity. That the human religious imagination is manifest in some way in every living human population resulted in part because we lived a long evolutionary history of compassion (and violence), of meaning making (and failure to understand each other’s meaning), of symbolic ritual that

sometimes encompassed the sacred (and sometimes did not), and of consciousness. We evolved to connect emotionally with others. As our brains grew and changed, as our social and emotional ties expanded, and as we began to create meaning-rich rituals with social partners, we began to seek out relationships in ways freed from the here and now. Relationality expanded to include worship of gods, fear of spirits, worship *and* fear of God, and so on, in innumerable permutations.

Van Huyssteen's refrain of a "link" or "mediator" between biology and culture sends us down a wrong path in understanding human religiosity because, when we speak of evolutionary change, there is no clean split between these two realms. I am reminded of the way the developmental biologist Anne Fausto-Sterling writes about the relationship between genes and the organism. Using one of M. C. Escher's symmetry drawings,³ a work that features birds and fish, she explains,

First, as one stares at the image, the birds jump into view, then the fish swim up. Both are always there, but how one focuses at a particular moment makes one animal more visible than the other. Second, each line simultaneously delineates the outline of both a fish and a bird. If Escher were to change the shape of the bird, the fish would change shape as well. . . . Change one change all. (Fausto-Sterling 2000, 237–38; see also Fogel 2006)

And so it is, often, with biology and culture over the course of unfolding human evolution: When biology changes, so does culture, and when culture changes, so does biology. The examples I have described above, of changes in nurturing patterns both affected by and affecting brain patterns, is consistent with this approach.

Given this integrative perspective, and a look back over the whole of my argument, questions may arise. Does an insistence that religion is strongly rooted in the natural world imply that naturalism is enough? Can we entirely explain ourselves, and our yearnings for connection beyond the here and now, via the processes of evolution? Does a focus on biology and culture preclude the transcendent?

Whole volumes are devoted to these issues (for example, Haught 2006). What I can add is a pair of strong statements about relationality. The key to understanding past and present religiosity is relationality; relationality is both natural and transcendent. In other words, just as there is no strict dichotomy between biology and culture, there is no forced choice between a world of nature and a world of transcendence.

Let me offer two more thoughts that I put, very much on purpose, into tension, but not, I think, into conflict. First: Humans are unique in the depth of the symbolic, ritual expression of meaning that we make with God, gods, or spirits. Science and religion, intertwined as is the double helix on the Peace Fountain at the Cathedral Church of St. John the Divine, both tell us that humans evolved to be relational and that relationality may extend into a sacred realm.

Second: We humans, in all the ways that matter, are not alone in the world. We share, and always have shared, Earth with an abundance of creatures. Many creatures feel and express emotions. Some, including the African great apes, think without language, are conscious without language, co-construct meaning without language, and share an evolved need for relationality. Others that lived in the past, including the extinct Neandertals and early *Homo sapiens*, very probably participated in symbolic rituals through which, at certain times and places, they turned their relationality, their meaning making, and their consciousness toward a spiritual realm.

The final word must go to van Huyssteen, although even here I cannot resist one quibble with the passage I have chosen! I do not see a need to posit the *necessity* of religious faith for all human beings. But van Huyssteen does, and he puts his case beautifully, and this passage otherwise returns me to that place of resonance from which I began this essay:

Obviously, my arguments here should not be seen as an attempt to reconstruct an argument for the existence of God, but only as making a case for the naturalness of religion, the meaningfulness, necessity, and rationality of religious belief, which cannot just be explained away rather naively by seeing it as “invented” earlier by our sometimes wildly irrational species. (p. 94)

NOTES

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1. Thanks to my colleague Matt Liebmann at William & Mary for discussions that led me to rethink my earlier description of the cobble as a symbol. I now interpret it as an icon.
2. BBC interview; see <http://news.bbc.co.uk/2/hi/science/nature/3256228.stm>.
3. For visual representations that give the sense of what Fausto-Sterling writes about, see <http://www.mcescher.com/Gallery/gallery.htm> and look for the link to symmetry drawings.

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