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EXPLORING OUR BASIC HUMAN NATURE ARE HUMANS INHERENTLY VIOLENT?

by Robert W. Sussman

Are human beings forever doomed to be violent? Is aggression fixed within our genetic code, an inborn action pattern that threatens to destroy us? Or, as asked by Richard Wrangham and Dale Peterson in their recent book, *Demonic Males: Apes and the Origins of Human Violence*, can we get beyond our genes, beyond our essential "human nature"?

Wrangham and Peterson's belief in the importance of violence in the evolution and nature of humans is

based on new primate research that they assert demonstrates the continuity of aggression from our great ape ancestors. The authors argue that 20-25 years ago most scholars believed human aggression was unique. Research at that time had shown great apes to be basically non-aggressive gentle creatures. Furthermore, the separation of humans from our ape ancestors was thought to have occurred 15-20 million years ago (Mya). Although Raymond Dart, Sherwood Washburn, Robert Ardrey, E.O. Wilson



Inside: "Kennewick Man"; Think Tank Exhibit; Race Relations; Laotian Refugee Women ; New Resources

and others had argued through much of the 20th century that hunting, killing, and extreme aggressive behaviors were biological traits inherited from our earliest hominid hunting ancestors, many anthropologists still believed that patterns of aggression were environmentally determined and culturally learned behaviors, not inherited characteristics.

Demonic Males discusses new evidence that killer instincts are not unique to humans, but rather shared with our nearest relative, the common chimpanzee. The authors argue that it is this inherited propensity for killing that allows hominids and chimps to be such good hunters.

According to Wrangham and Peterson, the split between humans and the common chimpanzee was only 6-8 Mya. Furthermore, humans may have split from the chimpanzee-bonobo line after gorillas, with bonobos (**pygmy chimps**) separating from chimps only 2.5 Mya. Because chimpanzees may be the modern ancestor of all these forms, and because the earliest australopithecines were quite chimpanzee-like, Wrangham speculates (in a separate article) that "chimpanzees are a conservative species and an amazingly good model for the ancestor of hominids" (1995, reprinted in Sussman 1997:106). If modern chimpanzees and modern humans share certain behavioral traits, these traits have "long evolutionary roots" and are likely to be fixed, biologically inherited parts of our basic human nature and not culturally determined.

Wrangham argues that chimpanzees are almost on the brink of humanness:

Nut-smashing, root-eating, savannah-using chimpanzees, resembling our ancestors, and capable by the way of extensive bipedalism. Using ant-wands, and sandals, and bowls, meat-sharing, hunting cooperatively. Strange paradox...a species trembling on the verge of hominization, but so conservative that it has stayed on that edge.... (1997:107).

Wrangham and Peterson (1996:24) claim that only two animal species, chimpanzees and humans, live in patrilineal, male-bonded communities "with

intense, male initiated territorial aggression, including lethal raiding into neighboring communities in search of vulnerable enemies to attack and kill." Wrangham asks:

Does this mean chimpanzees are naturally violent? Ten years ago it wasn't clear....In this cultural species, it may turn out that one of the least variable of all chimpanzee behaviors is the intense competition between males, the violent aggression they use against strangers, and their willingness to maim and kill those that frustrate their goals....As the picture of chimpanzee society settles into focus, it now includes infanticide, rape and regular battering of females by males (1997:108).

Since humans and chimpanzees share these violent urges, the implication is that human violence has long evolutionary roots. "We are apes of nature, cursed over six million years or more with a rare inheritance, a Dostoyevskyan demon...The coincidence of demonic aggression in ourselves and our closest kin bespeaks its antiquity" (1997:108-109).

Intellectual Antecedents

From the beginning of Western thought, the theme of human depravity runs deep, related to the idea of humankind's fall from grace and the emergence of original sin. This view continues to pervade modern "scientific" interpretations of the evolution of human behavior. Recognition of the close evolutionary relationship between humans and apes, from the time of Darwin's *Descent of Man* (1874) on, has encouraged theories that look to modern apes for evidence of parallel behaviors reflecting this relationship.

By the early 1950s, large numbers of australopithecine fossils and the discovery that the large-brained "fossil" ancestor from Piltdown, in England, was a fraud, led to the realization that our earliest ancestors were more like apes than like modern humans. Accordingly, our earliest ancestors must have behaved much like other non-human primates. This, in turn, led to a great interest in

using primate behavior to understand human evolution and the evolutionary basis of human nature. The subdiscipline of primatology was born.

Raymond Dart, discoverer of the first australopithecine fossil some thirty years earlier, was also developing a different view of our earliest ancestors. At first Dart believed that australopithecines were scavengers barely eking out an existence in the harsh savanna environment. But from the fragmented and damaged bones found with the australopithecines, together with dents and holes in these early hominid skulls, Dart eventually concluded that this species had used bone, tooth and antler tools to kill, butcher and eat their prey, as well as to kill one another. This hunting hypothesis (Cartmill 1997:511) "was linked from the beginning with a bleak, pessimistic view of human beings and their ancestors as instinctively bloodthirsty and savage." To Dart, the australopithecines were:

confirmed killers: carnivorous creatures that seized living quarries by violence, battered them to death, tore apart their broken bodies, dismembered them limb from limb, slaking their ravenous thirst with the hot blood of victims and greedily devouring livid writhing flesh (1953:209).

Cartmill, in a recent book (1993), shows that this interpretation of early human morality is reminiscent of earlier Greek and Christian views. Dart's (1953) own treatise begins with a 17th century quote from the Calvinist R. Baxter: "of all the beasts, the man-beast is the worst/ to others and himself the cruellest foe."

Between 1961-1976, Dart's view was picked up and extensively popularized by the playwright Robert Ardrey (*The Territorial Imperative, African Genesis*). Ardrey believed it was the human competitive and killer instinct, acted out in warfare, that made humans what they are today. "It is war and the instinct for territory that has led to the great accomplishments of Western Man. Dreams may have inspired our love of freedom, but only war and weapons have made it ours" (1961: 324).

Man the Hunter

In the 1968 volume *Man the Hunter*, Sherwood Washburn and Chet Lancaster presented a theory of "The evolution of hunting," emphasizing that it is this behavior that shaped human nature and separated early humans from their primate relatives.

To assert the biological unity of mankind is to affirm the importance of the hunting way of life....However much conditions and customs may have varied locally, the main selection pressures that forged the species were the same. The biology, psychology and customs that separate us from the apes .. we owe to the hunters of time past .. for those who would understand the origins and nature of human behavior there is no choice but to try to understand "Man the Hunter" (1968:303).

Rather than amassing evidence from modern hunters and gatherers to prove their theory, Washburn and Lancaster (1968:299) use the 19th-century concept of cultural "survivals": behaviors that persist as evidence of an earlier time but are no longer useful in society.

Men enjoy hunting and killing, and these activities are continued in sports even when they are no longer economically necessary. If a behavior is important to the survival of a species...then it must be both easily learned and pleasurable (Washburn & Lancaster, p. 299).

Man the Dancer

Using a similar logic for the survival of ancient "learned and pleasurable" behaviors, perhaps it could easily have been our propensity for dancing rather than our desire to hunt that can explain much of human behavior. After all, men and women love to dance; it is a behavior found in all cultures but has even less obvious function today than hunting. Our love of movement and dance might explain, for example, our propensity for face-to-face sex, and even the evolution of bipedalism and the movement of humans out of trees and onto the ground.

Could the first tool have been a stick to beat a dance drum, and the ancient Laetoli footprints evidence of two individuals going out to dance the "Afarensis shuffle"? Although it takes only two to tango, a variety of social interactions and systems might have been encouraged by the complex social dances known in human societies around the globe.

responses have been fashioned through this life style. With caution, we can compare the most widespread hunter-gatherer qualities with similar behavior displayed by some of the non-human primates that are closely related to Man. Where the same pattern of traits occurs in...most or all of those primates--we can conclude that it has been subject to little evolution. (Wilson 1976, in Sussman 1997: 65-66).



Wilson's theory of sociobiology, the evolution of social behavior, argued that:

- (1) the goal of living organisms is to pass on one's genes at the expense of all others;
- (2) an organism should only cooperate with others if :
 - (a) they carry some of his/her own genes (kin selection) or
 - (b) if at some later date the others might aid you (reciprocal altruism).

To sociobiologists, evolutionary morality is based on an unconscious need to multiply our own genes, to build group cohesion in order to win wars. We should not look down on our warlike, cruel nature but rather understand its success when coupled with "making nice" with some other individuals or groups. The genetically driven "making nice" is the basis of human ethics and morality.

Sociobiology and E.O. Wilson

In the mid-1970s, E.O. Wilson and others described a number of traits as genetically based and therefore human universals, including territoriality, male-female bonds, male dominance over females, and extended maternal care leading to matrilineality. Wilson argued that the genetic basis of these traits was indicated by their relative constancy among our primate relatives and by their persistence throughout human evolution and in human societies. Elsewhere, I have shown that these characteristics are neither general primate traits nor human universals (Sussman 1995). Wilson, however, argued that these were a product of our evolutionary hunting past.

For at least a million years--probably more--Man engaged in a hunting way of life, giving up the practice a mere 10,000 years ago....Our innate social

Throughout recorded history the conduct of war has been common.. some of the noblest traits of mankind, including team play, altruism, patriotism, bravery...and so forth are the genetic product of warfare (Wilson 1975:572-3).

The evidence for any of these universals or for the tenets of sociobiology is as weak as was the evidence for Dart's, Ardrey's and Washburn and Lancaster's theories of innate aggression. Not only are modern gatherer-hunters and most apes remarkably non-aggressive, but in the 1970s and 1980s studies of fossil bones and artifacts have shown that early humans were not hunters, and that weapons were a later addition to the human repertoire. In fact, C.K. Brain (1981) showed that

the holes and dents in Dart's australopithecine skulls matched perfectly with fangs of leopards or with impressions of rocks pressing against the buried fossils. Australopithecines apparently were the hunted, not the hunters (Cartmill, 1993, 1997).

Beyond Our Genes

Wrangham and Peterson's book goes beyond the assertion of human inborn aggression and propensity towards violence. The authors ask the critical question: Are we doomed to be violent forever because this pattern is fixed within our genetic code or can we go beyond our past? -- get out of our genes, so to speak.

The authors believe that we can look to the bonobo or pygmy chimpanzee as one potential savior, metaphorically speaking.

Bonobos, although even more closely related to the common chimpanzee than humans, have become a peace-loving, love-making alternative to chimpanzee-human violence. How did this happen? In chimpanzees and humans, females of the species select partners that are violent. ..."while men have evolved to be demonic males, it seems likely that women have evolved to prefer demonic males...as long as demonic males are the most successful reproducers, any female who mates with them is provided with sons who themselves will likely be good reproducers" (Wrangham and Peterson 1996:239). However, among pygmy chimpanzees females form alliances and have chosen to mate with less aggressive males. So, after all, it is not violent males that have caused humans and chimpanzees to be their inborn, immoral, dehumanized selves, it is rather, poor choices by human and chimpanzee females.

Like Dart, Washburn, and Wilson before them, Wrangham and Peterson believe that killing and violence is inherited from our ancient relatives of the past. However, unlike these earlier theorists,

Wrangham and Peterson argue this is not a trait unique to hominids, nor is it a by-product of hunting. In fact, it is just this violent nature and a natural "blood lust" that makes both humans and chimpanzees such good hunters. It is the bonobos that help the authors come to this conclusion. Because bonobos have lost the desire to kill, they also have lost the desire to hunt.

...do bonobos tell us that the suppression of personal violence carried with it the suppression of predatory aggression? The strongest hypothesis at the moment is that bonobos came from a chimpanzee-like ancestor that hunted monkeys and hunted one another. As they evolved into bonobos, males lost their demonism, becoming less aggressive to each other. In so doing they lost their lust for hunting monkeys, too....Murder and hunting may be more closely tied together than we are used to thinking (Wrangham and Peterson 1996:219).



The Selfish Gene Theory

Like Ardrey, Wrangham and Peterson believe that blood lust ties killing and hunting tightly together but it is the killing that drives hunting in the latter's argument. This lust to kill is based upon the

sociobiological tenet of the selfish gene. "The general principle that behavior evolves to serve selfish ends has been widely accepted; and the idea that humans might have been favored by natural selection to hate and to kill their enemies has become entirely, if tragically, reasonable" (Wrangham and Peterson 1996:23).

As with many of the new sociobiological or evolutionary anthropology theories, I find problems with both the theory itself and with the evidence used to support it. Two arguments that humans and chimpanzees share biologically fixed behaviors are: (1) they are more closely related to each other than chimpanzees are to gorillas; (2) chimpanzees are a good model for our earliest ancestor and retain conservative traits that should be shared by both.

The first of these statements is still hotly debated and, using various genetic evidence, the chimpanzee-human triage is so close that it is difficult to tell exact divergence time or pattern among the three. The second statement is just not true. Chimpanzees have been evolving for as long as humans and gorillas, and there is no reason to believe ancestral chimps were similar to present-day chimps. The fossil evidence for the last 5-8 million years is extremely sparse, and it is likely that many forms of apes have become extinct just as have many hominids.

Furthermore, even if the chimpanzee were a good model for the ancestral hominid, and was a conservative representative of this phylogenetic group, this would not mean that humans would necessarily share specific behavioral traits. As even Wrangham and Peterson emphasize, chimps, gorillas, and bonobos all behave very differently from one another in their social behavior and in their willingness to kill conspecifics.

Evidence Against "Demonic Males"

The proof of the "Demonic Male" theory does not rest on any theoretical grounds but must rest solely on the evidence that violence and killing in chimpanzees and in humans are behaviors that are similar in pattern; have ancient, shared evolutionary roots; and are inherited. Besides killing of

conspecifics, Wrangham "includes infanticide, rape, and regular battering of females by males" as a part of this inherited legacy of violent behaviors shared by humans and chimpanzees (1997:108).

Wrangham and Peterson state: "That chimpanzees and humans kill members of neighboring groups of their own species is...a startling exception to the normal rule for animals" (1996:63). "Fighting adults of almost all species normally stop at winning: They don't go on to kill" (1996:155). However, as Wrangham points out there are exceptions, such as lions, wolves, spotted hyenas, and I would add a number of other predators. In fact, most species do not have the weapons to kill one another as adults.

Just how common is conspecific killing in chimpanzees? This is where the real controversy may lie. Jane Goodall described the chimpanzee as a peaceful, non-aggressive species during the first 24 years of study at Gombe (1950-1974). During one year of concentrated study, Goodall observed 284 agonistic encounters: of these 66% were due to competition for introduced bananas, and only 34% "could be regarded as attacks occurring in 'normal' aggressive contexts" (1968:278). Only 10 percent of the 284 attacks were classified as 'violent', and "even attacks that appeared punishing to me often resulted in no discernable injury...Other attacks consisted merely of brief pounding, hitting or rolling of the individual, after which the aggressor often touched or embraced the other immediately (1968:277).

Chimpanzee aggression before 1974 was considered no different from patterns of aggression seen in many other primate species. In fact, Goodall explains in her 1986 monograph, *The Chimpanzees of Gombe*, that she uses data mainly from after 1975 because the earlier years present a "very different picture of the Gombe chimpanzees" as being "far more peaceable than humans" (1986:3). Other early naturalists' descriptions of chimpanzee behavior were consistent with those of Goodall and confirmed her observations. Even different communities were observed to come together with peaceful, ritualized displays of greeting (Reynolds

(continued on page 17)

("Human Nature" continued from page 6)

and Reynolds 1965; Suguyama 1972. Goodall 1968).

Then, between 1974 and 1977, five adult males from one subgroup were attacked and disappeared from the area, presumably dead. Why after 24 years did the patterns of aggression change? Was it because the stronger group saw the weakness of the other and decided to improve their genetic fitness. But surely there were stronger and weaker animals and subgroups before this time. Perhaps we can look to Goodall's own perturbations for an answer. In 1965, Goodall began to provide "restrictive human-controlled feeding." A few years later she realized that

the constant feeding was having a marked effect on the behavior of the chimps. They were beginning to move about in large groups more often than they had ever done in the old days. Worst of all, the adult males were becoming increasingly aggressive. When we first offered the chimps bananas the males seldom fought over their food;....now...there was a great deal more fighting than ever before....(Goodall 1971:143).

The possibility that human interference was a main cause of the unusual behavior of the Gombe chimps was the subject of an excellent, but generally ignored book by Margaret Power (1991). Wrangham and Peterson (1996:19) footnote this book, but as with many other controversies, they essentially ignore its findings, stating that yes, chimpanzee violence might have been unnatural behavior if it weren't for the evidence of similar behavior occurring since 1977 and "elsewhere in Africa" (1996:19).

Further Evidence

What is this evidence from elsewhere in Africa? Wrangham and Peterson provide only four brief examples, none of which is very convincing:

(1) Between 1979-1982, the Gombe group extended its range to the south and conflict with a southern group, Kalande, was suspected. In 1982, a "raiding" party of males reached Goodall's camp. The authors state: "Some of these raids may have been lethal" (1996:19). However, Goodall describes this "raid" as follows: One female "was chased by a Kalande male and mildly attacked....Her four-year-old son...encountered a second male--but was only sniffed" (1986:516). Although Wrangham and Peterson imply that these encounters were similar to those between 1974-77, no violence was actually witnessed. The authors also refer to the discovery of the dead body of Humphrey; what they do not mention is Humphrey's age of 35 and that wild chimps rarely live past 33 years!

(2) From 1970 to 1982, six adult males from one community in the Japanese study site of Mahale disappeared, one by one over this 12 year period. None of the animals were observed being attacked or killed, and one was sighted later roaming as a solitary male (Nishida et al., 1985:287-289).

(3) In another site in West Africa, Wrangham and Peterson report that Boesch and Boesch believe "that violent aggression among the chimpanzees is as important as it is in Gombe" (1986:20). However, in the paper referred to, the Boesch's simply state that encounters by neighboring chimpanzee communities are more common in their site than in Gombe (one per month vs. 1 every 4 months). There is no mention of violence during these encounters.

(4) At a site that Wrangham began studying in 1984, an adult male was found dead in 1991. Wrangham states: "In the second week of August, Ruizoni was killed. No human saw the big fight" (Wrangham & Peterson 1996:20). Wrangham gives us no indication of what has occurred at this site over the last 6 years.

In fact, this is the total amount of evidence of warfare and male-male killing among chimpanzees after 37 years of research!! The data for infanticide and rape among chimpanzees is even less impressive. In fact, data are so sparse for these behaviors among chimps that Wrangham and

Peterson are forced to use examples from the other great apes, gorillas and orangutans. However, just as for killing among chimpanzees, both the evidence and the interpretations are suspect and controversial.

Can We escape Our Genes?

What if Wrangham and Peterson are correct and we and our chimp cousins are inherently sinners? Are we doomed to be violent forever because this pattern is fixed within our genetic code?

After 5 million years of human evolution and 120,000 or so years of *Homo sapiens* existence, is there a way to rid ourselves of our inborn evils?

What does it do for us, then, to know the behavior of our closest relatives? Chimpanzees and bonobos are an extraordinary pair. One, I suggest shows us some of the worst aspects of our past and our present; the other shows an escape from it....Denial of our demons won't make them go away. But even if we're driven to accepting the evidence of a grisly past, we're not forced into thinking it condemns us to an unchanged future (Wrangham 1997:110).

In other words, we can learn how to behave by watching bonobos. But, if we can change our inherited behavior so simply, why haven't we been able to do this before *Demonic Males* enlightened us? Surely, there are variations in the amounts of violence in different human cultures and individuals. If we have the capacity and plasticity to change by learning from example, then our behavior is determined by socialization practices and by our cultural histories and not by our nature! This is true whether the examples come from benevolent bonobos or conscientious objectors.

Conclusion

The theory presented by Wrangham and Peterson, although it also includes chimpanzees as our murdering cousins, is very similar to "man the hunter" theories proposed in the past. It also does not differ greatly from early European and Christian

beliefs about human ethics and morality. We are forced to ask:

Are these theories generated by good scientific fact, or are they just "good to think" because they reflect, reinforce, and reiterate our traditional cultural beliefs, our morality and our ethics? Is the theory generated by the data, or are the data manipulated to fit preconceived notions of human morality and ethics?

Since the data in support of these theories have been weak, and yet the stories created have been extremely similar, I am forced to believe that "Man the Hunter" is a myth, that humans are not necessarily prone to violence and aggression, but that this belief will continue to reappear in future writings on human nature. Meanwhile, primatologists must continue their field research, marshaling the actual evidence needed to answer many of the questions raised in Wrangham and Peterson's volume.

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References Cited:

- Ardrey, Robert. 1961. *African Genesis: A Personal Investigation into Animal Origins and Nature of Man*. Atheneum.
- _____. *The Territorial Imperative*. Atheneum, 1966.
- Brain, C.K. 1981. *The Hunted or the Hunter? An Introduction to African Cave Taphonomy*. Univ. of Chicago.
- Dart, Raymond. 1953. "The Predatory Transition from Ape to Man." *International Anthropological and Linguistic Review* 1:201-217.
- Darwin, Charles. 1874. *The Descent of Man and Selection in Relation to Sex*. 2nd ed. The Henneberry Co.
- Cartmill, Matt. 1997. "Hunting Hypothesis of Human Origins." In *History of Physical Anthropology: An Encyclopedia*, ed. F. Spencer, pp. 508-512. Garland.
- _____. 1993. *A View to a Death in the Morning: Hunting and Nature Through History*. Harvard Univ.

- Goodall, Jane. 1986. *The Chimpanzees of Gombe: Patterns of Behavior*. Belknap.
- _____. 1971. *In the Shadow of Man*. Houghton Mifflin.
- Goodall, Jane. 1968. "The Behavior of Free-Living Chimpanzees in the Gombe Stream Reserve." *Animal Behavior Monographs* 1:165-311.
- Nishida, T., Hiraiwa-Hasegawa, M., and Takahtat, Y. "Group Extinction and Female Transfer in Wild Chimpanzees in the Mahali Nation Park, Tanzania." *Zeitschrift für Tierpsychologie* 67:281-301.
- Power, Margaret. 1991. *The EgalitarianS Human and Chimpanzee: An Anthropological View of Social Organization*. Cambridge University.
- Reynolds, V. and Reynolds, F. 1965. "Chimpanzees of Budongo Forest," In *Primate Behavior: Field Studies of Monkeys and Apes*, ed. I. DeVore, pp. 368-424. Holt, Rinehart, and Winston.
- Suguyama, Y. 1972. "Social Characteristics and Socialization of Wild Chimpanzees" In *Primate Socialization*, ed. F.E. Poirier, pp. 145-163. Random House.
- Sussman, R.W., ed. 1997. *The Biological Basis of Human Behavior*. Simon and Schuster.
- Sussman, R.W. 1995. "The Nature of Human Universals." *Reviews in Anthropology* 24:1-11.
- Washburn, S.L. and Lancaster, C. K. 1968. "The Evolution of Hunting" In *Man the Hunter*, eds. R. B. Lee and I. DeVore, pp. 293-303. Aldine.
- Wilson, E. O. 1997. "Sociobiology: A New Approach to Understanding the Basis of Human Nature." *New Scientist* 70(1976):342-345. (Reprinted in R.W. Sussman, 1997.)
- _____. 1975. *Sociobiology: The New Synthesis*. Cambridge: Harvard University.
- Wrangham, R.W. 1995. "Ape, Culture, and Missing Links." *Symbols* (Spring):2-9,20. (Reprinted in R. W. Sussman, 1997.)
- Wrangham, Richard and Peterson, Dale. 1996. *Demonic Males: Apes and the Origins of Human Violence*. Houghton Mifflin.

Further Reading

- Bock, Kenneth. 1980. *Human Nature and History: A Response to Sociobiology*. Columbia University.
- Gould, Stephen J. 1996. *Mismeasure of Man*. W.W. Norton.