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CHAPTER FOUR

The Ape in the Mirror

Why should our nastiness be the baggage of an apish past and our kindness uniquely human? Why should we not seek continuity with other animals for our 'noble' traits as well?

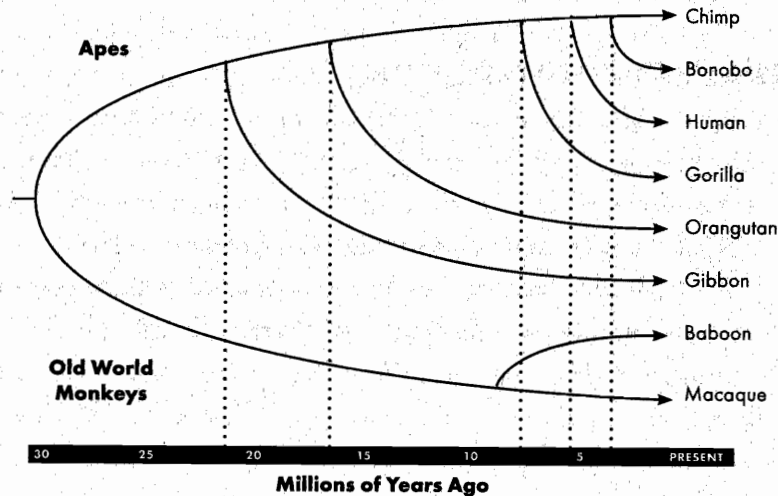
STEPHEN JAY GOULD

'Tis from the resemblance of the external actions of animals to those we ourselves perform, that we judge their internal likewise to resemble ours; and the same principle of reasoning, carry'd one step farther, will make us conclude that since our internal actions resemble each other, the causes, from which they are deriv'd, must also be resembling. When any hypothesis, therefore, is advanc'd to explain a mental operation, which is common to men and beasts, we must apply the same hypothesis to both.

DAVID HUME, *A Treatise of Human Nature* (1739–1740)

Genetically, the chimps and bonobos at the zoo are far closer to you and the other paying customers than they are to the gorillas, orangutans, monkeys, or anything else in a cage. Our DNA differs from that of

chimps and bonobos by roughly 1.6 percent, making us closer to them than a dog is to a fox, a white-handed gibbon to a white-cheeked crested gibbon, an Indian elephant to an African elephant or, for any bird-watchers who may be tuning in, a red-eyed vireo to a white-eyed vireo.



The ancestral line leading to chimps and bonobos splits off from that leading to humans just five to six million years ago (though interbreeding probably continued for a million or so years after the split), with the chimp and bonobo lines separating somewhere between 3 million and 860,000 years ago.¹ Beyond these two close cousins, the familial distances to other primates grow much larger: the gorilla peeled away from the common line around nine million years ago, orangutans 16 million, and gibbons, the only monogamous ape, took an early exit about 22 million years ago. DNA evidence indicates that the last common ancestor for apes and monkeys lived about 30 million years ago. If you picture this relative genetic distance from humans geographically, with a mile representing about 100,000 years since we last shared a common ancestor, it might look something like this:

- *Homo sapiens sapiens*: New York, New York.
- Chimps and bonobos are practically neighbors, living within thirty miles of each other in Bridgeport, Connecticut, and Yorktown Heights, New York. Both just fifty miles from New York, they are well within commuting distance of humanity.
- Gorillas are enjoying cheese-steaks in Philadelphia, Pennsylvania.
- Orangutans are in Baltimore, Maryland, doing whatever it is people do in Baltimore.
- Gibbons are busily legislating monogamy in Washington, D.C.
- Old-world monkeys (baboons, macaques) are down around Roanoke, Virginia.

Carl Linnaeus, the first to make the taxonomic distinction between humans and chimps (in the mid-18th century), came to wish he hadn't. This division (*Pan* and *Homo*) is now regarded as being without scientific justification, and many biologists advocate reclassifying humans, chimps, and bonobos together to reflect our striking similarities.

Nicolaes Tulp, a well-known Dutch anatomist immortalized in Rembrandt's painting *The Anatomy Lesson*, produced the earliest accurate description of a nonhuman ape's anatomy in 1641. The body Tulp dissected so closely resembled a human's that he commented that "it would be hard to find one egg more like another." Although Tulp called his specimen an Indian Satyr, and noted that local people called it an orangutan, contemporary primatologists who have studied Tulp's notes believe it was a bonobo.²

Like us, chimps and bonobos are African great apes. Like all apes, they have no tail. They spend a good part of their lives on the ground and are both highly intelligent, intensely social creatures. For bonobos, a turbocharged sexuality utterly divorced from reproduction is a central feature of social interaction and group cohesion. Anthropologist Marvin Harris argues that bonobos get a "reproductive payoff that compensates them for their wasteful approach to hitting the ovulatory target."

The payoff is “a more intense form of social cooperation between males and females” leading to “a more intensely cooperative social group, a more secure milieu for rearing infants, and hence a higher degree of reproductive success for sexier males and females.”³ The bonobo’s promiscuity, in other words, confers significant evolutionary benefits on the apes.

The only monogamous ape, the gibbon, lives in Southeast Asia in small family units consisting of a male/female couple and their young—isolated in a territory of thirty to fifty square kilometers. They never leave the trees, have little to no interaction with other gibbon groups, not much advanced intelligence to speak of, and infrequent, reproduction-only copulation.

Monogamy is not found in any social, group-living primate except—if the standard narrative is to be believed—us.

Anthropologist Donald Symons is as amazed as we are at frequent attempts to argue that monogamous gibbons could serve as viable models for human sexuality, writing, “Talk of why (or whether) humans pair bond like gibbons strikes me as belonging to the same realm of discourse as talk of why the sea is boiling hot and whether pigs have wings.”⁴

Primates and Human Nature

If Thomas Hobbes had been offered the opportunity to design an animal that embodied his darkest convictions about human nature, he might have come up with something like a chimpanzee. This ape appears to confirm every dire Hobbesian assumption about the inherent nastiness of pre-state existence. Chimps are reported to be power-mad, jealous, quick to violence, devious, and aggressive. Murder, organized warfare between groups, rape, and infanticide are prominent in accounts of their behavior.

Once these chilling observations were published in the 1960s, theorists quickly proposed the “killer ape” theory of human origins. Pri-

matologists Richard Wrangham and Dale Peterson summarize this demonic theory in stark terms, finding in chimpanzee behavior evidence of ancient human blood-lust, writing, “Chimpanzee-like violence preceded and paved the way for human war, making modern humans the dazed survivors of a continuous, 5-million-year habit of lethal aggression.”⁵

Before the chimp came to be regarded as the best living model of ancestral human behavior, a much more distant relative, the savanna baboon, held that position. These ground-dwelling primates are adapted to the sort of ecological niche our ancestors likely occupied once they descended from the trees. The baboon model was abandoned when it became clear that they lack some fundamental human characteristics: cooperative hunting, tool use, organized warfare, and power struggles involving complex coalition-building. Meanwhile, Jane Goodall and others were observing these qualities in chimpanzee behavior. Neuroscientist Robert Sapolsky—an expert on baboon behavior—notes that “chimps are what baboons would love to be like if they had a shred of self-discipline.”⁶

Perhaps it is not surprising, then, that so many scientists have assumed that chimpanzees are what humans would be like with just a bit *less* self-discipline. The importance of the chimpanzee in late twentieth-century models of human nature cannot be overstated. The maps we devise (or inherit from previous explorers) predetermine where we explore and what we’ll find there. The cunning brutality displayed by chimpanzees, combined with the shameful cruelty that characterizes so much of human history, appears to confirm Hobbesian notions of human nature if left unrestrained by some greater force.

Table 1: Social Organization Among Apes⁷

Bonobo	Egalitarian and peaceful , bonobo communities are maintained primarily through social bonding between females , although females bond with males as well. Male status derives from the
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mother. Bonds between son and mother are life-long. **Multimale-multifemale mating.**

Chimpanzee The bonds between males are strongest and lead to constantly shifting **male coalitions**. Females move through overlapping ranges within territory patrolled by males, but don't form strong bonds with other females or any particular male.

Multimale-multifemale mating.

Human By far the most diverse social species among the primates, there is plentiful evidence of **all types of socio-sexual bonding, cooperation, and competition** among contemporary humans.

Multimale-multifemale mating.*

Gorilla Generally, a single dominant male (the so-called "Silverback") occupies a range for his family unit composed of several females and young. Adolescent males are forced out of the group as they reach sexual maturity. Strongest social bonds are between the male and adult females.

Polygynous mating.

Orangutan Orangutans are solitary and show little bonding of any kind. Male orangutans do not tolerate each other's presence. An adult male establishes a large territory where several females live. Each has her own range. **Mating is dispersed**, infrequent and often violent.

Gibbon Gibbons establish nuclear family units; each couple maintains a territory from which other pairs are excluded. **Mating is monogamous.**

* Unless you're sticking with the standard model, in which case humans are classified as monogamous or polygynous, depending on the source.

Doubting the Chimpanzee Model

There are, however, some serious problems with turning to chimpanzee behavior to understand prehistoric human societies. While chimps are extremely hierarchical, groups of human foragers are vehemently egalitarian. Meat sharing is precisely the occasion when chimp hierarchy is most evident, yet a successful hunt triggers the leveling mechanisms most important to human foraging societies. Most primatologists agree about the prominence of power-consciousness in chimpanzees. But it may be premature to generalize from observations made at Gombe, given that observations made at different sites—Taï, on the Ivory Coast of western Africa, for example—suggest some wild chimps handle the sharing of meat in ways more reminiscent of human foragers. Primatologist Craig Stanford found that while the chimps at Gombe are "utterly nepotistic and Machiavellian" about meat distribution, the chimps at Taï share the meat among every individual in the hunting group, whether friend or foe, close relative or relative stranger.⁸

So, while data from the chimps studied by Goodall and others at Gombe appear to support the idea that a ruthless and calculating selfishness is typical of chimpanzee behavior, information from other study sites may contradict or undermine this finding. Given the difficulties inherent in observing chimpanzee behavior in the wild, we should be cautious about generalizing from the limited data we have available on free-ranging chimps. And given their indisputable intelligence and social nature, we should be equally suspicious of data collected from captive chimps, which would appear to be no more generalizable than human prisoner behavior would be to humans.

There are also questions concerning how violent chimps are if left undisturbed in their natural habitat. As we discuss in Chapter 13, several factors could have profoundly altered the chimps' observed be-

havior. Cultural historian Morris Berman explains that if we “change things such as food supplies, population densities, and the possibilities for spontaneous group formation and dissolution, . . . all hell breaks loose—no less for apes than for humans.”⁹

Even if we limit ourselves to the chimpanzee model, the dark self-assurance of modern-day neo-Hobbesian pessimists may be unfounded. Evolutionary biologist Richard Dawkins, for example, might be a bit less certain in his gloomy assessment of human nature: “Be warned that if you wish, as I do, to build a society in which individuals cooperate generously and unselfishly towards a common good, you can expect little help from biological nature. Let us try to *teach* generosity and altruism, because we are born selfish.”¹⁰ Maybe, but cooperation runs deep in our species too. Recent findings in comparative primate intelligence have led researchers Vanessa Woods and Brian Hare to wonder whether an impulse toward cooperation might actually be the key to our species-defining intelligence. They write, “Instead of getting a jump start with the most intelligent hominids surviving to produce the next generation, as is often suggested, it may have been the more sociable hominids—because they were better at solving problems together—who achieved a higher level of fitness and allowed selection to favor more sophisticated problem-solving over time.”¹¹ Humans got smart, they hypothesize, because our ancestors learned to cooperate.

Innately selfish or not, the effects of food provisioning and habitat depletion on both wild chimpanzees and human foragers suggest that Dawkins and others who argue that humans are *innately* aggressive, selfish beasts should be careful about citing these chimp data in support of their case. Human groups tend to respond to food surplus and storage with behavior like that observed in chimps: heightened hierarchical social organization, intergroup violence, territorial perimeter defense, and Machiavellian alliances. In other words, humans—like chimps—tend to fight when there’s something worth fighting over. But for most of prehistory, there was no food surplus to win or lose and no home base to defend.

In Search of Primate Continuity

Two elements women share with bonobos are that their ovulation is hidden from immediate detection and that they have sex throughout their cycle. But here the similarities end. Where are our genital swellings, and where is the sex at the drop of a hat?

FRANS DE WAAL¹²

Sex was an expression of friendship: in Africa it was like holding hands. . . . It was friendly and fun. There was no coercion. It was offered willingly.

PAUL THEROUX¹³

Whatever one concludes about chimp violence and its relevance to human nature, our other closest primate cousin, the bonobo, offers a fascinating counter-model. Just as the chimpanzee seems to embody the Hobbesian vision of human origins, the bonobo reflects the Rousseauian view. Although best known today as the proponent of the *Noble Savage*, Rousseau’s autobiography details a fascination with sexuality that suggests that he would have considered bonobos kindred souls had he known of them. De Waal sums up the difference between these two apes’ behavior by saying that “the chimpanzee resolves sexual issues with power; the bonobo resolves power issues with sex.”

Though bonobos surpass even chimps in the frequency of their sexual behavior, females of both species engage in multiple mating sessions in quick succession with different males. Among chimpanzees, ovulating females mate, on average, from six to eight times per day, and they are often eager to respond to the mating invitations of any and all males in the group. Describing the behavior of female chimps she monitored, primatologist Anne Pusey notes, “Each, after mating within her natal community, visited the other community while sexually receptive . . . They eagerly approached and mated with males from the new community.”¹⁴

This extra-group sexual behavior is common among chimpanzees, suggesting that intergroup relations are not as violent as some claim. For example, a recent study of DNA samples taken from hair follicles collected from chimpanzee nests at the Tai study area in Ivory Coast showed that *more than half the young* (seven of thirteen) had been fathered by males from outside the female's home group. Were these chimps living in a perpetual war zone, it's unlikely these females would have been free to slip away easily enough to account for over half their pregnancies. Ovulating female chimps (despite the heightened male monitoring predicted by the standard model) eluded their male protectors/captors long enough to wander over to the other groups, mate with unfamiliar males, and then saunter back to their home group. This sort of behavior is unlikely in a state of perpetual high alert.

Whatever the truth regarding relations between unprovisioned groups of chimpanzees in the wild, unconscious bias rings out in passages like this one: "In war as in romance, bonobos and chimpanzees appear to be strikingly different. When two bonobo communities meet at a range boundary at Wamba . . . not only is there no lethal aggression as sometimes occurs in chimps, there may be socializing and even sex between females and the enemy community's males."¹⁵

Enemy? When two groups of intelligent primates get together to socialize and have sex with each other, who would think of these groups as *enemies* or such a meeting as *war*? Note the similar assumptions in this account: "Chimpanzees give a special call that alerts others at a distance to the presence of food. As such, this is food sharing of sorts, *but it need not be interpreted as charitable*. A caller faced with more than enough food will lose nothing by sharing it and may benefit later when another chimpanzee reciprocates [emphasis added]."¹⁶

Perhaps this seemingly cooperative behavior "need not be interpreted as charitable," but what's the unspoken problem with such an interpretation? Why should we seek to explain away what looks like generosity among nonhuman primates, or other animals in general? Is generosity a uniquely human quality? Passages like these make one

wonder why, as Gould asked, scientists are loath to see primate continuity in our positive impulses even as many clearly yearn to locate the roots of our aggression deep in primate past.

Just imagine that we had never heard of chimpanzees or baboons and had known bonobos first. We would at present most likely believe that early hominids lived in female-centered societies, in which sex served important social functions and in which warfare was rare or absent.

FRANS DE WAAL¹⁷

Because they live only in a remote area of dense jungle in a politically volatile country (Democratic Republic of Congo, formerly Zaire), bonobos were one of the last mammals to be studied in their natural habitat. Although their anatomical differences from common chimps were noted as long ago as 1929, until bonobos' radically different behavior became apparent, they were considered a subgroup of chimpanzee—often called "pygmy chimps."

For bonobos, female status is more important than male hierarchy, but even female rank is flexible and not binding. Bonobos have no formalized rituals of dominance and submission like the status displays common to chimps, gorillas, and other primates. Although status is not completely absent, primatologist Takayoshi Kano, who has collected the most detailed information on bonobo behavior in the wild, prefers to use the term "influential" rather than "high-ranking" when describing female bonobos. He believes that females are respected out of affection, rather than because of rank. Indeed, Frans de Waal wonders whether it's appropriate to discuss hierarchy at all among bonobos, noting, "If there is a female rank order, it is largely based on seniority rather than physical intimidation: older females are generally of higher status than younger ones."¹⁸

Those looking for evidence of matriarchy in human societies might

ponder the fact that among bonobos, female “dominance” doesn’t result in the sort of male submission one might expect if it were simply an inversion of the male power structures found among chimps and baboons. The female bonobos use their power differently than male primates. Despite their submissive social role, male bonobos appear to be much better off than male chimps or baboons. As we’ll see in later discussions of female-dominated societies, human males also tend to fare pretty well when the women are in charge. While Sapolsky chose to study baboons because of the chronically high stress levels males suffer as a result of their unending struggles for power, de Waal notes that bonobos confront a different sort of existence, saying, “in view of their frequent sexual activity and low aggression, I find it hard to imagine that males of the species have a particularly stressful time.”¹⁹

Crucially, humans and bonobos, but not chimps, appear to share a specific anatomical predilection for peaceful coexistence. Both species have what’s called a *repetitive microsatellite* (at gene AVPR1A) important to the release of oxytocin. Sometimes called “nature’s ecstasy,” oxytocin is important in pro-social feelings like compassion, trust, generosity, love, and yes, eroticism. As anthropologist and author Eric Michael Johnson explains, “It is far more parsimonious that chimpanzees lost this repetitive microsatellite than for both humans and bonobos to independently develop the same mutation.”²⁰

But there is intense resistance to the notion that relatively low levels of stress and a surfeit of sexual freedom could have characterized the human past. Helen Fisher acknowledges these aspects of bonobo life as well as their many correlates in human behavior, and even makes a sly reference to Morgan’s *primal horde*:

These creatures travel in mixed groups of males, females, and young. . . . Individuals come and go between groups, depending on the food supply, connecting a cohesive community of several dozen animals. Here is a primal horde. . . . Sex is almost a daily pastime. . . . Females copulate during most of their menstrual

cycles—a pattern of coitus more similar to women’s than any other creature’s. . . . Bonobos engage in sex to ease tension, to stimulate sharing during meals, to reduce stress while traveling, and to reaffirm friendships during anxious reunions. “Make love, not war” is clearly a bonobo scheme.²¹

Fisher then asks the obvious question, “Did our ancestors do the same?” She seems to be preparing us for an affirmative answer by noting that bonobos “display many of the sexual habits people exhibit on the streets, in the bars and restaurants, and behind apartment doors in New York, Paris, Moscow, and Hong Kong.” “Prior to coitus,” she writes, “bonobos often stare deeply into each other’s eyes.” And Fisher assures her readers that, like human beings, bonobos “walk arm in arm, kiss each other’s hands and feet, and embrace with long, deep, tongue-intruding French kisses.”²²

It seems that Fisher, who shares our doubts about other aspects of the standard narrative, is about to reconfigure her arguments concerning the advent of long-term pair bonding and other aspects of human prehistory to better reflect these behaviors shared by bonobos and humans. Given the prominent role of chimpanzee behavior in supporting the standard narrative, how can we *not* include the *equally relevant* bonobo data in our conjectures concerning human prehistory? Remember, *we are genetically equidistant from chimps and bonobos*. And as Fisher notes, human sexual behavior has more in common with bonobos’ than with that of any other creature on Earth.

But Fisher balks at acknowledging that the human sexual past could have been like the bonobo present, explaining her last-minute 180-degree turnaround by saying, “Bonobos have sex lives quite different from those of other apes.” But this isn’t true because humans—whose sexual behavior is so similar to that of bonobos, according to Fisher herself—are apes. She continues, “Bonobo heterosexual activities also occur throughout most of the menstrual cycle. And female bonobos resume sexual behavior within a year of parturition.” Both these other-

wise unique qualities of bonobo sexuality are shared by only one other primate species: *Homo sapiens*. But still, Fisher concludes, "Because pygmy chimps [bonobos] exhibit these *extremes of primate sexuality* and because biochemical data suggest [they] emerged as recently as two million years ago, I do *not* feel they make a suitable model for life as it was among hominids twenty million years ago [emphasis added]."²³

This passage is bizarre on several levels. After writing at length about how strikingly similar bonobo sexual behavior is to that of human beings, Fisher executes a double backflip to conclude that they *don't* make a suitable model for our ancestors. To make matters even more confusing, she shifts the whole discussion to twenty million years ago as if she'd been talking about the last common ancestor of *all apes* as opposed to that shared by chimps, bonobos, and humans, who diverged from a common ancestor only *five* million years ago. In fact, Fisher wasn't talking about such distant ancestors. *The Anatomy of Love*, the book from which we've been quoting, is a beautifully written popularization of her groundbreaking academic work on the "evolution of serial pair-bonding" in humans (not *all apes*) within the past few million years. Furthermore, note how Fisher refers to the very qualities bonobos share with humans as "extremes of primate sexuality."

Further hints of neo-Victorianism appear in Fisher's description of the transition our ancestors made from the treetops to life on land: "Perhaps our primitive female ancestors living in the trees pursued sex with a variety of males to keep friends. Then, when our forbears were driven onto the grasslands of Africa some four million years ago and pair bonding evolved to raise the young, females turned from open promiscuity to clandestine copulations, reaping the benefits of resources and better or more varied genes as well."²⁴ Fisher *assumes* the advent of pair bonding four million years ago despite the absence of any supporting evidence. Continuing this circular reasoning, she writes:

Because bonobos appear to be the smartest of the apes, because they have many physical traits quite similar to people's, and because

these chimps copulate with flair and frequency, some anthropologists conjecture that bonobos are much like the African hominoid prototype, our last common tree-dwelling ancestor. Maybe pygmy chimps are living relics of our past. But they certainly manifest some fundamental differences in their sexual behavior. For one thing, bonobos do not form long-term pair-bonds the way humans do. Nor do they raise their young as husband and wife. Males do care for infant siblings, but monogamy is no life for them. Promiscuity is their fare.²⁵

Here we have crystalline expression of the Flintstonizing that can distort the thinking of even the most informed theorists on the origins of human sexual behavior. We're confident Dr. Fisher will find that what she calls "fundamental differences" in sexual behavior are not differences at all when she looks at the full breadth of information we cover in following chapters. We'll show that husband/wife marriage and sexual monogamy are *far* from universal human behaviors, as she and others have argued. Simply because bonobos raise doubts about the naturalness of human long-term pair bonding, Fisher and most other authorities conclude that they cannot serve as models for human evolution. They begin by assuming that long-term sexual monogamy forms the nucleus of the one and only natural, eternal human family structure and reason backwards from there. Yucatán be damned!

I sometimes try to imagine what would have happened if we'd known the bonobo first and chimpanzee only later or not at all. The discussion about human evolution might not revolve as much around violence, warfare, and male dominance, but rather around sexuality, empathy, caring, and cooperation. What a different intellectual landscape we would occupy!

FRANS DE WAAL, *Our Inner Ape*

The weakness of the “killer ape theory” of human origins becomes clear in light of what’s now known about bonobo behavior. Still, de Waal makes a good case that even without the data that became available in the 1970s, the many flaws in the chimp-fortified Hobbesian view eventually would have emerged. He calls attention to the fact that the theory confuses predation with aggression, assumes that tools originated as weapons, and depicts women as “passive objects of male competition.” He calls for a new scenario that “acknowledges and explains the virtual absence of organized warfare among today’s human foragers, their egalitarian tendencies, and generosity with information and resources across groups.”²⁶

By projecting recent post-agricultural preoccupations with female fidelity into their vision of prehistory, many theorists have Flintstonized their way right into a cul-de-sac. Modern man’s seemingly instinctive impulse to control women’s sexuality is not an intrinsic feature of human nature. It is a response to specific historical socioeconomic conditions—conditions very different from those in which our species evolved. This is key to understanding sexuality in the modern world. De Waal is correct that this hierarchical, aggressive, and territorial behavior is of recent origin for our species. It is, as we’ll see, an adaptation to the social world that arose with agriculture.

From our perspective on the far bank, Helen Fisher, Frans de Waal, and a few others seem to have ventured out onto the bridge that crosses over the rushing stream of unfounded assumptions about human sexuality—but they dare not cross it. Their positions seem, to us, to be compromises that strain against the most parsimonious interpretation of data they know as well as anyone. Confronted with the unignorable fact that human beings sure don’t *act* like a monogamous species, they make excuses for our “aberrant” (yet perplexingly consistent) behavior. Fisher explains the phenomenon of worldwide marital breakdown by arguing that the pair bond evolved to last only until the infant grows to a child who can keep up with the foraging band without fatherly assistance. For his part, de Waal still argues that the

nuclear family is “intrinsically human” and the pair-bond is “the key to the incredible level of cooperation that marks our species.” But he then suggestively concludes that “our success as a species is intimately tied to the abandonment of the bonobo lifestyle and to a tighter control over sexual expressions.”²⁷ “Abandonment?” Since it’s impossible to abandon what one never had, de Waal would presumably agree that hominid sexuality was, at some point, profoundly similar to that of the relaxed, promiscuous bonobo—although he never says so explicitly. Nor has he ventured to say when or why our ancestors abandoned that way of being.²⁸

Table 2: Comparison of Bonobo, Chimp, and Human Socio-sexual Behavior and Infant Development²⁹

Human and bonobo females **copulate throughout menstrual cycle**, as well as during **lactation** and **pregnancy**. Female chimps are sexually active only 25–40 percent of their cycle.

Human and bonobo infants develop much more slowly than chimpanzees, beginning to play with others at about 1.5 years, much later than chimps.

Like humans, **female bonobos return to the group immediately after giving birth and copulate within months**. They exhibit little fear of infanticide, which has never been observed in bonobos—captive or free-living.

Bonobos and humans enjoy many different copulatory positions, with ventral-ventral (missionary position) appearing to be preferred by bonobo females and rear-entry by males, while chimps prefer rear-entry almost exclusively.

Bonobos and humans often gaze into each other’s eyes when copulating and kiss each other deeply. Chimps do neither.

The **vulva** is located between the legs and oriented toward the

front of the body in humans and bonobos, rather than oriented toward the rear as in chimps and other primates.

Food sharing is highly associated with sexual activity in humans and bonobos, only moderately so in chimps.

There is a high degree of **variability in potential sexual combinations in humans and bonobos**; homosexual activity is common in both, but rare in chimps.

Genital-genital (G-G) rubbing between female bonobos appears to affirm female bonding, is present in all bonobo populations studied (wild and captive), and is completely absent in chimpanzees. Human data on G-G rubbing are presently unavailable. (Attention: ambitious graduate students!)

While sexual activity in chimps and other primates appears to be primarily reproductive, **bonobos and humans utilize sexuality for social purposes** (tension reduction, bonding, conflict resolution, entertainment, etc.).