

The Evolution of Breasts, Buttocks and the Big Brain

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Abstract

As first proposed and detailed by Joseph (1992a, 1993, 1996, 2000a,b), the evolution of human consciousness is directly related to the evolution of human female sexuality and full time sexual availability signaled by the evolution of a permanent enlargement of the female breasts and buttocks thereby mimicking the signs of estrus in other primates, and her ability to choose her sex partners. When females became fully bipedal the breasts expanded in size, mimicking the patterns of the buttocks, thereby signaling to males and females alike her sexual availability when walking on two legs and standing upright. Through sexual selection breasts and buttocks expanded in size and became the norm. Female sexual choice served to weed out the most brutal, frightening, and less intelligent males who were denied opportunities to breed, whereas continual sexuality receptivity motivated male possessiveness and a willingness to provide females and her offspring with meat and protection on a full-time basis; all of which led to and corresponded with the establishment of a semi-permanent home base heated by fire and the first hearths for the cooking of food which became easier to chew thereby allowing the jaw to decrease in size. Coupled with improved nutrition and female sexual preference for the more intelligent males who would provide for her, the cranium and the brain increased in size. Female sexual choice also contributed to the evolution of an enlarged male penis which could also be easily viewed when standing upright. The female pelvis also increased in size to accommodate the birth of big brained babies, and which resulted in a permanent enlargement of the female hips and buttocks. With the evolution of breasts, buttocks, the big brain, and human intelligence, sexual consciousness evolved, and human females began mirroring the signs of estrus in other primates by inventing and applying cosmetics and perfume to their bodies. Males were also becoming domesticated, civil society began to evolve, and modern human consciousness emerged--a direct consequence of the first sexual revolution and the liberation of female sexuality. This article is a review of the evidence and theories first proposed and published by Joseph.

Key Words: Consciousness, Sexuality, Evolution, Chimpanzees, Bonobos, Australopithecus, H. habilis, H. erectus,

SEX, BREASTS, BUTTOCKS, THE BIG BRAIN AND HUMAN CONSCIOUSNESS

As first proposed and detailed by Joseph (1992a, 1993, 1996, 2000a,b), the evolution of human consciousness is directly related to the evolution of human female sexuality and full time sexual availability signaled by the evolution of a permanent enlargement of the female breasts and buttocks, and her ability to chose her sex partners. Female sexual choice served to weed out the most brutal, frightening, and less intelligent males who were denied opportunities to breed, whereas continual sexuality receptivity motivated male possessiveness and a willingness to provide her and her offspring meat and protection on a full-time basis, all of which led to and

corresponded with the establishment of a semi-permanent home base and the first hearths for the cooking of food. Because food which is cooked can be easily chewed the jaw decreased in size, which, coupled with improved nutrition and female sexual preference for the more intelligent males who would provide for her, enabled the cranium and the brain to increase in size. With the evolution of the big brain and human intelligence, modern human consciousness also emerged--a direct consequence of the first sexual revolution and the liberation of female sexuality.

THE FEMALE IN HEAT

Sexually, the human female is unique. Unlike all other (noncaptive) females, she is continuously sexually receptive and can have sexual intercourse at any time, morning, noon, or night. Whereas other females of the animal kingdom have sex almost exclusively when in estrus or "heat" the human female can have sexual intercourse 24 hours a day, 365 days a year.

Although a variety of claims have been made about "pygmy chimpanzees" (bonobos), the fact is, since 1950, almost all studies on bonobos are based on observations of their behavior in captivity. As such, claims about bonobo sexual behavior are in fact reports of abnormal behavior of abnormal animals raised or imprisoned in grossly abnormal environments. A variety of abnormal self-stimulatory and group-stimulatory behaviors are common in captive animals, and abnormal sexual conduct tells us nothing about the sexual behavior of normal animals living in a normal environment. However, even an abnormal bonbo female cannot have sexual intercourse on a full time basis, no does she continually signal her sexual receptivity as is characteristic of the human female.

The human female is the sexiest female on the planet, and she continually signals this fact as she has evolved an enlarged derriere and prominent breasts which remain swollen even when she is not pregnant, lactating, or sexually aroused. Those swollen breasts, and posterior protuberance, her buttocks, have been driving males wild with sexual desire for over half a million years.

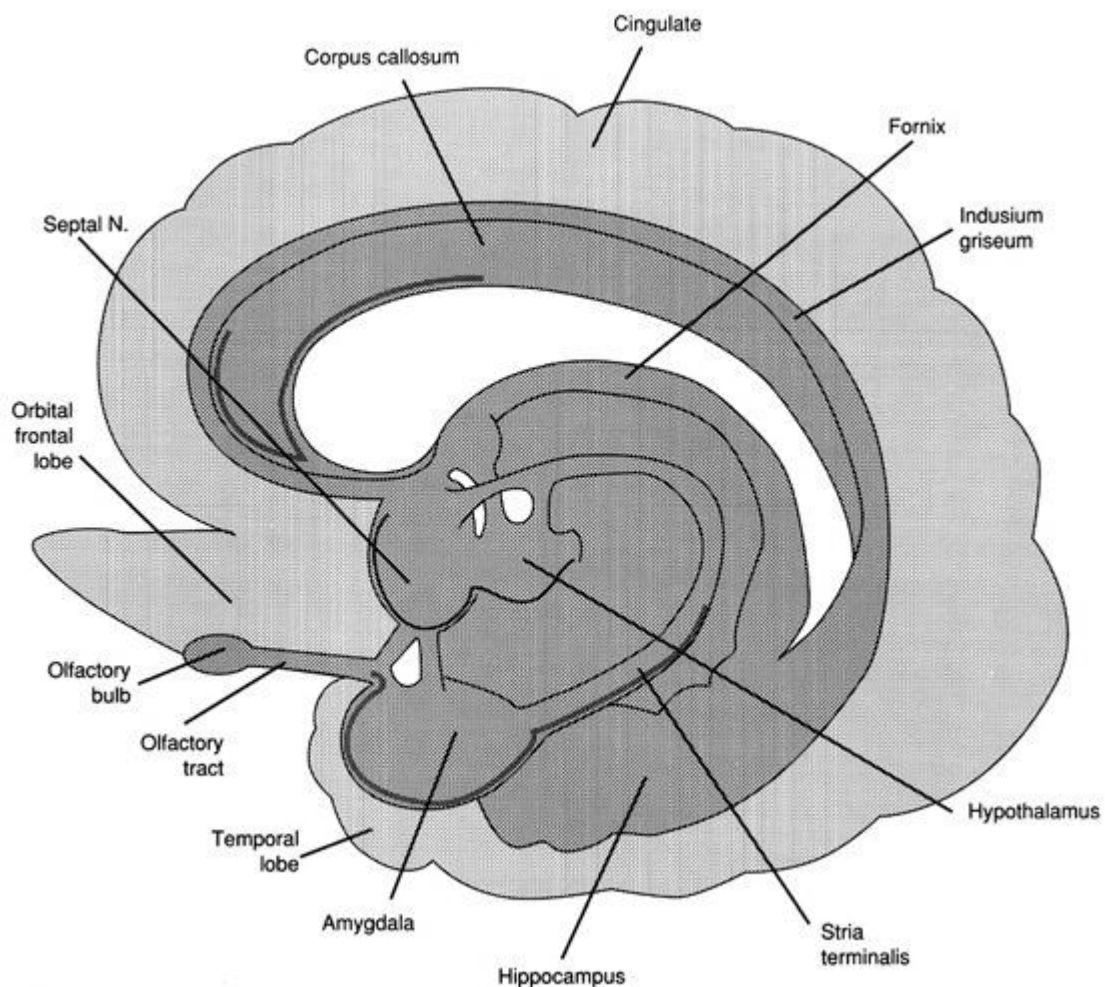




In many respects the human female's sexual behavior is similar to other primates and mammals when they enter estrus or "heat." Like other female animals who enter estrus the human female (young women in particular depending on cultural restraints) sometimes flaunts and aggressively advertises her sexual availability (Joseph 1985, 1993, 2000a,b). And like other social primates, she is capable of experiencing multiple orgasms and enjoying multiple sex partners, one after another. In fact, she is most likely to seek sex including with men outside her primary relationship, when she is ovulating and likely to get pregnant (Buss, 2003; Gold & Burt, 1978; Matteo

& Rissman, 1984; Udry & Morris, 1968, 1970; Wolfe, 1991); just like females of other species.

A female in heat, behaves like a female in heat regardless of species, simply because biologically sexuality serves a single purpose: to attract numerous male sex partners which insures she becomes pregnant. Moreover, be it female cat, dog, wolf, or chimpanzee, all possess basically identical brain structures which mediate female sexuality, i.e, the amygdala and hypothalamus of the limbic system which is sexually differentiated (Joseph, 1990, 1992a, 1994, 1996, 2000a). That is, there is a male vs female limbic system.



The limbic system.

The human female shares almost identical sexual traits and tendencies with numerous species, especially social primates, the chimpanzee in particular (de Waal, 2007; Eibl-Eisbesfeldt, 2007; Ford & Beach, 1951; Joseph, 2000a,b; Symons 1981; Wickler, 1973). This commonalty is a consequence of her primate/mammalian evolutionary heritage and the fact that female humans and female primates possess a "female" limbic system. It is the

ancient limbic system which mediates love, and the four Fs: Feeding, Fighting, Fear, and Sexual behavior.

And yet, there are obvious physical sexual differences between human females and other female animals. Specifically, the adult human female has swollen breasts and an enlarged buttocks which signal her continual sexually receptive physiology and sexual availability. Other species of female may develop swollen breasts or genitals only when they are maximally sexually receptive, that is, when they are in estrus or heat; whereas for much of the year these sex organs are flat and hidden. Among other social primates, the posterior anatomy only becomes enlarged or changes color when the female is in estrus and most fertile: the purpose is to attract sex partners. However, because the human female is continually sexually receptive, she continually advertises her sexual condition (Joseph 1985, 2000a,b).





It was probably not until around 700,000 to 500,000 years B.P., during the latter stages of *Homo erectus* evolution, that human females became sexual receptivity at all times and evolved those secondary sexual characteristics to signal her availability, i.e. the permanently swollen buttocks and breasts (Joseph, 2000a,b). Likewise, it may have been around 500,000 years ago that the human brain significantly increased in size, which resulted in an increase in the size of the female pelvis, thereby resulting in a restructuring of the musculature such that the buttocks increased in size. Moreover, because the female legs became wider apart at the pelvis, this caused her to wiggle and shake her buttocks when she walks, thus drawing increased male attention to her enlarged butt.

An increase in the size of the brain also endowed the human female with the cognitive and creative capacity to artificially emphasize and exaggerate her sexuality by applying natural pigments to her face and body, such as rouge obtained from red ocher (Joseph 2000a,b). Thus, rouge and cosmetics may have first come into fashion around 500,000 years ago, and which served the same purpose as employed by present day females: to mimic the stereotypical colorful signs of estrus typical of other species when in heat, and to sexually signal and attract potential mates (Joseph, 2000a,b).



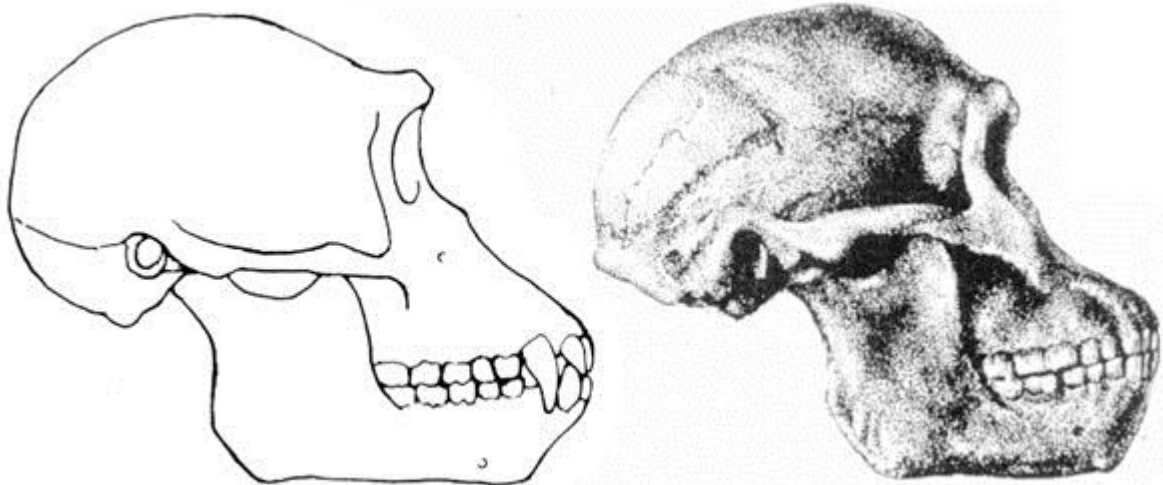
Full time sexual availability as signaled by an increase in the size of the buttocks and breasts, also corresponds to and most likely lead to the establishment of the first home bases; that is, semi-permanent dwellings where males cohabitated with females who could provide them with sex in exchange for meat and protection.

CHIMPANZEES, AUSTRALOPITHECUS AND H. HABILIS

The human female shares numerous sexual, cognitive, emotional, and behavioral characteristics with other species, the chimpanzee in particular (Bygott, 1979; de Waal, 2007; Goodall, 1986, 1990, 1996, 2010; Itani & Suzuki, 1967; McGrew, 1981; Tanner, 1981, 1987; Stanford, 1998). For example, although there is considerable variation, the sexual behavior of the female human (Gold & Burt, 1978; Matteo & Rissman, 1984; Udry & Morris, 1968, 1970; Wolfe, 1991) and the female chimpanzee (Fedigan, 1992; Michael, 1972) increases at the time of ovulation, that is, at midcycle; though in humans there is a second peak just before and after menstruation (Fisher, 1973). Moreover, human and group living (multi-male/female) hominoid females are capable of experiencing multiple orgasms (e.g., Allen, and Lemmon, 1981; Burton, 1971; Chevalier-Skolnikoff, 1974; Goldfoot 1977; Masters & Johnson, 1966; Michael et al., 1974) and can have sex with multiple partners. Multiple sex partners ensures she will become pregnant, and multiple orgasms reward her with increasing pleasure for her behavior.

These and other female chimpanzee/human commonalties appear to be due to a common genetic and evolutionary heritage and the sexual differentiation of the limbic system (Joseph 1990, 1992a, 1994, 1996). It is this ancestral hominoid heritage and limbic system commonalties which explains not only the human female's capacity for multiple orgasms (Joseph 2000a,b), but the fact that her "monthly rhythm of ovogenesis, ovulation, estrogen and progesterone secretion, uterine stimulation, and menstrual bleeding follows the basic primate pattern" (Beach, 1974, p. 356). Because they share common ancestors and a limbic system organized in a "female" pattern, female chimps and humans are sexually similar.

The human female sometimes behaves similar to a female chimpanzee in heat and this is because our d"human" ancestors of around 5 million years ago, were essentially apes. Indeed, given these primate origins and commonalties, the initial evolution of the human females' unique sexuality is therefore best understood from a pongid perspective, beginning with Australopithecus whose social life was probably more ape-like than human-like.

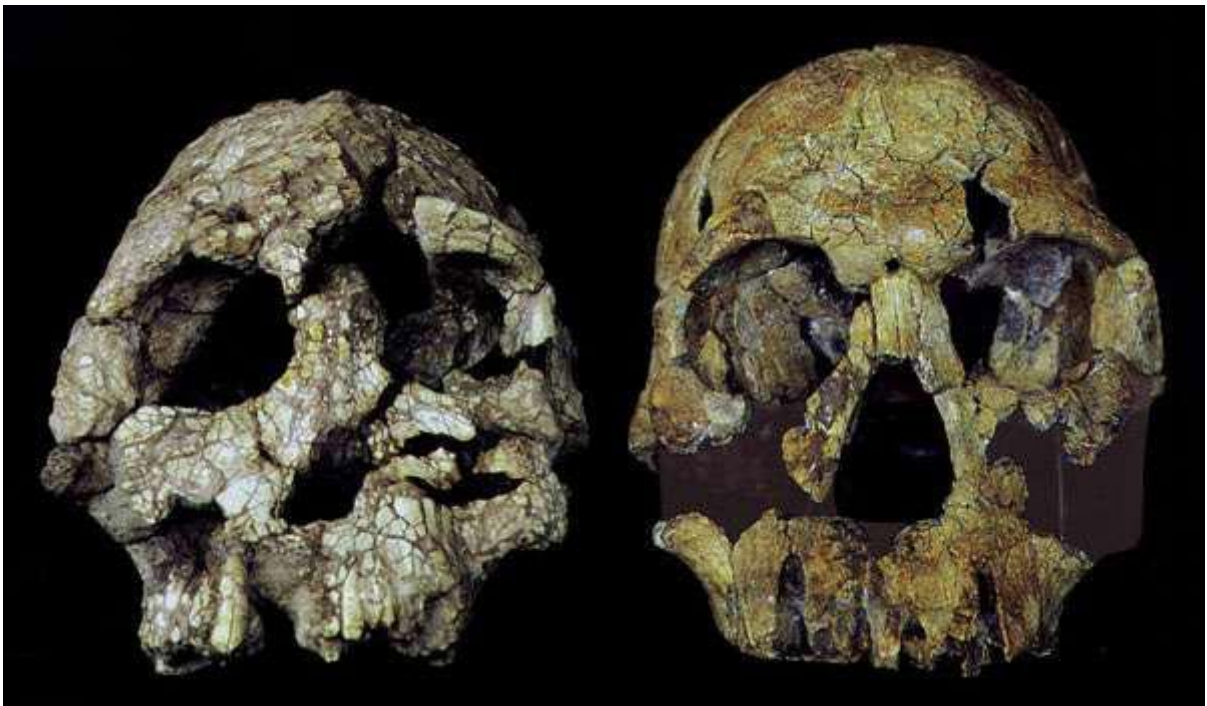
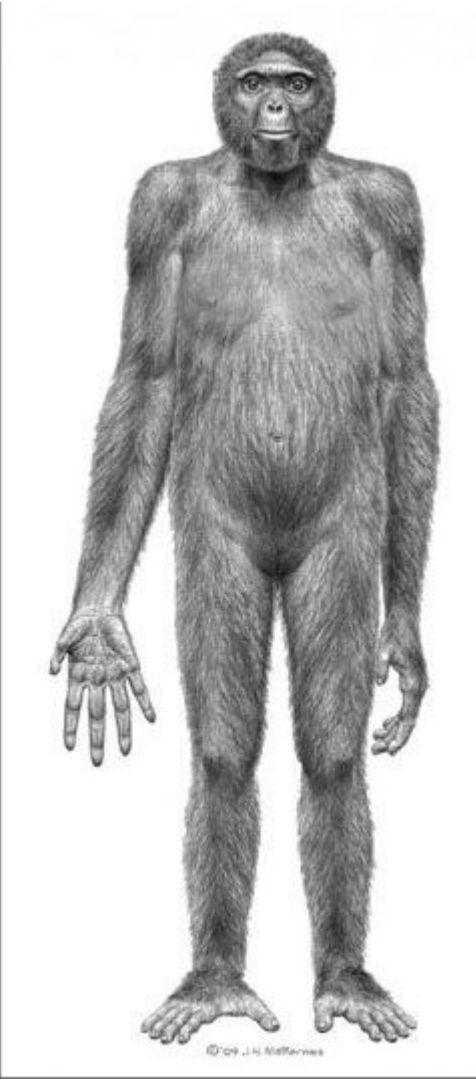
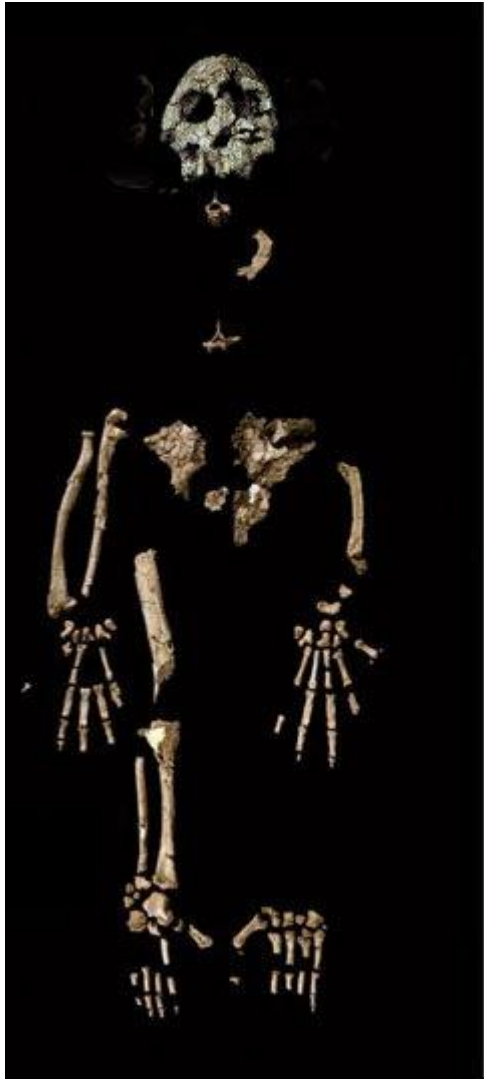


The skull of an Australopithecus and that of a chimpanzee. From Clark, G. (1967), *The Stone Age Hunters*. Thames & Hudson.

Since Australopithecus was more ape-like than human, it can also be inferred that these pre-human females were extremely sexually promiscuous and probably had sex up to fifty times a day when they entered estrus, as is typical of female chimps. Like other social apes, our pre-human female ancestors probably had sex with every desirable and high status male of the troop, and she likely snuck off to an adjacent troop where she would then enjoy a romantic vacation by again having sex up to fifty times a day with every desirable and high status male-- a common behavior of female chimps.

THE HOMINOID TO HOMINID TRANSITION

It was perhaps as recently as 5 million years ago that the ancestral lines leading to chimps and humans diverged from a common ancestor (Sibley & Alhquist, 1984; Takahata et al., 1995) with the first pre-humans, *Ardipithecus ramidus* ("ground ape"), and *Australopithecus*, emerging soon thereafter. However, these were still basically apes.

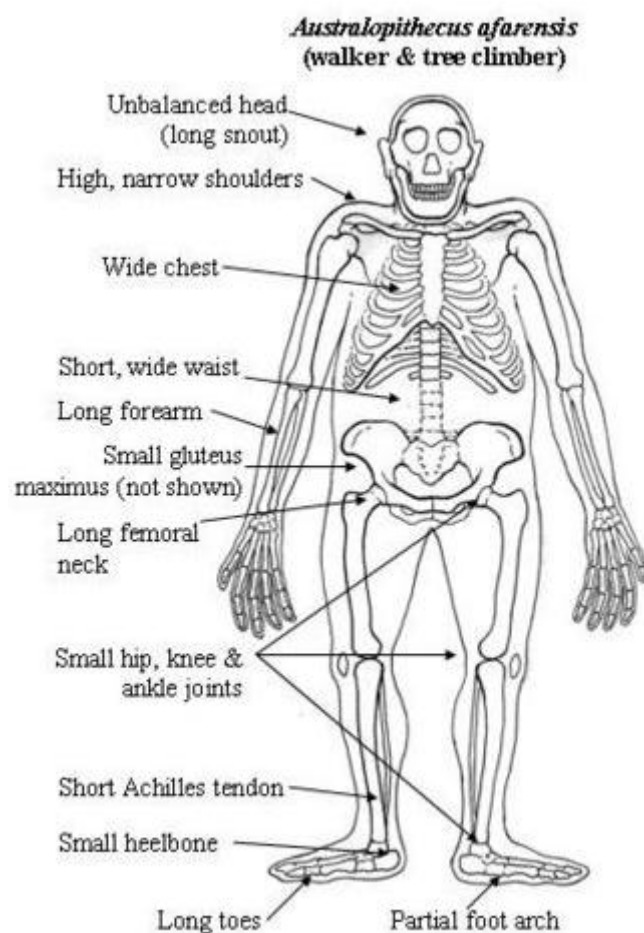


Ardipithecus ramidus (the remains of which are 4.4 million years old) *Australopithecus anamesis* (who emerged 4 million years B.P.), *A. aferensis* (3.6 million B.P.), *A. africanus* (3 million years B.P.), *A. garhi* (2.5 million B.P.), and early *Homo habilis* (2.2 million B.P), possessed forelimbs or hindlimbs which were more ape-like than human-like (McHenry & Berger, 1998; White 1994; Wood, 1994).





(Left to Right) *Australopithecus anamensis*, *Australopithecus afarensis*, *Australopithecus africanus*.



Australopithecus was especially ape-like in regard to head and brain size (Conroy, 1998). Also ape-like were their small semi-circular canals (inner ear), robust body build, conical chest, and curved feet (Fleagle, 1988; Howells, 1997; Johanson, 1980; Johanson & Shreeve, 1989; Leakey, 1994; White et al., 1994). *Australopithecus*, like chimpanzees, climbed and probably nested in trees (Fleagle, 1988; Stern & Susman, 1983; Wood, 1994).

Although *Australopithecus* (*aferensis/africanus*) had acquired the ability to walk on two legs and was well on the way to becoming human (e.g. Howells, 1997; Johanson, 1980; Johanson, & Shreeve, 1989; Leakey, 1981), this pre-human was built like a chimpanzee, and retained chimp-like capabilities and limitations, including an ape-like maturational growth rate (Beynon & Dean, 1988). Similar ape-like traits were characteristic of early *H. habilis* (McHenry and Berger, 1998).





Sexually, these early hominids probably behaved no different from group living apes, such as chimpanzees. Likewise, the social life of *Australopithecus* and *Homo habilis* was probably more ape-like than human-like (Joseph 2000b).

Although the baboon has been proposed as a model for early hominid behavior (Devore & Washburn, 1963; Leakey, 1994), the baboon brain is only about half the size of an Australopithecus brain (Tobias, 1971), and common ancestors for humans and baboons diverged almost 30 million years ago (Sibley & Alhquist, 1984).

By contrast, the common ancestors for chimps and humans diverged 5 million year ago and the chimpanzee brain (395-410 cc) is just slightly smaller than the average Australopithecus brain (375-440 cc). That our early ancestors, Australopithecus and early *H. habilis*, behaved and acted in a manner similar to chimpanzees can also be inferred based on present-day human DNA which is almost identical to chimpanzee DNA. Chimpanzees and modern humans display a 99% homologous sequence identity in nucleotide base pair sequence organization, and 98.4% of activated/coded human and chimpanzee DNA is identical (Goodman et al., 1990). There are very few genes in the chimp genome whose counterparts cannot be found often in the same exact location in the human genome, though it is also apparent that chromosomes 4, 9, and 12 are configured somewhat differently. Those few genes that have been inverted include AF4, which sits on chromosome 4 and which codes for a transcription factor related to leukemia in humans (reviewed in Gibbons, 1998). By contrast, primate genes which have disappeared from the human genome include a few silent "satellite" introns (non-coded genes) which, in the chimp genome, are adjacent to the telomere (Royale et al. 1994). The telomere is a structure which caps the chromosome. These chimpanzee introns appear to have shifted to a new position within the human chromosome, which is a common behavior of episoms, transposons, and plasmids. In so doing, they likely became exons and thus activated, and in so doing possibly promoting the transition from hominoid to hominid.

Given these close genetic similarities, it can thus be inferred that genetically Australopithecus and *H. habilis* were probably almost DNA- identical to chimps and behaved similarly.

Australopithecus vs Ape



Australopithecus vs Ape Skull.



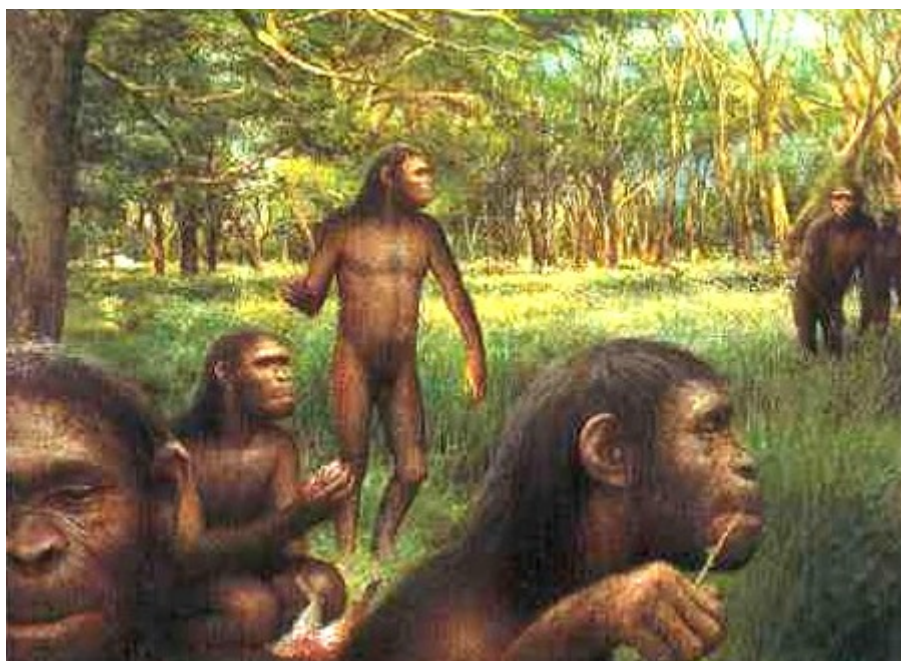
Australopithecus



Chimps holding hands



Chimps kissing





Artists conception: H. Habilis

Therefore, given these genetic, physical, and other similarities, and the fact that early H. habilis also possessed ape-like characteristics, the modern chimpanzee is thus an excellent evolutionary model for early hominid behavior (McGrew, 1981; Tanner, 1987), including female sexuality (Joseph 2000a,b; Symons 1981). In fact, "humans" remained basically ape-like until around 2 million years B.P., and only became increasingly human-like following the emergence of Homo erectus.

AUSTRALOPITHECUS - H. HABILIS SOCIAL-SEXUAL BEHAVIOR

Like modern day chimpanzees (e.g., Bygott, 1979; de Waal, 2007; Goodall, 1986, 1990, 1996, 2010; Helte & Marquardt, 1989; Itani & Suzuki, 1967; Nishida, 1990; Wrangham, Clark & Isaiye-Basuta, 1992), Australopithecus and H. habilis probably lived in troops of up to 50 individuals, and the males may have controlled and patrolled large territories dozens of miles in diameter.

Like chimpanzees, it can also be assumed Australopithecus / H. habilis employed elaborate vocalizations and facial, hand, arm, and body gestures to communicate. They likely developed long lasting sibling and mother-infant relationships, and used a variety of strategies for achieving dominance and forming coalitions. Thus, Australopithecines and H. habilis may have greeted their own kind with hugs, pats, and kisses, would hold and shake hands, engage in long periods of mutual grooming, seek reassurance by embracing, and were probably willing to risk their lives to help family members who were in distress or danger.

As is characteristic of chimpanzees (e.g., de Waal, 2007; Goodall, 1986, 1990, 1996, 2010; Nishida, 1990; Wrangham et al., 1992), female

Australopithecus / H. habilis may have spent considerable time socializing with kin and engaging in prolonged child care with mother-son and especially mother-daughter bonds lasting a lifetime. Incessant mutual vocalizing and prolonged daily food gathering activities were probably characteristic, especially between mothers and daughters.

By contrast male Australopithecines and H. habilis may have been more semi-independent, though like chimps (e.g., Bygott, 1972; de Waal, 2007; Goodall, 1986, 1990, 1996, 2010; Hamburg, 1971; Nishida, 1990), they likely formed coalitions, as well as hunting or raiding parties in which they would kill other animals or hominids from adjacent troops; and, on occasion, each other.

According to Dart (1949), Australopithecines "were confirmed killers; carnivorous creatures that seized others by violence, battered them to death, tore apart their broken bodies, dismembered them limb from limb, and slaking their ravenous thirst with the hot blood of the pitiful victims and greedily devouring their writhing flesh."



Chimp predators. Photo by David Bygott.



Chimp predators. Photo by David Bygott.

Although Dart's conclusions have been challenged, as is now well known, male chimps not uncommonly engage in violent, murderous and even cannibalistic interactions with neighboring as well as other troop member (Bygott, 1972, 1979; de Waal, 2007; Goodall, 1986, 1990, 1996, 2010; Lancaster, 1978). Like modern humans, gangs of male chimpanzees engage in surprise attacks on neighboring colonies, beating and killing the old, infirm, and infants alike, including former friends; even drinking their blood. That *Australopithecus* behaved in an identical manner, thus, should not be surprising.

However, after a successful hunt, males may have offered females choices pieces of meat, in exchange for sex. Moreover, less successful males may have begged for scraps of meat, which they either consumed or also offered to estrus females.



Adult chimpanzee begging for a piece of bloody red meat from an animal killed by the chimp below. (Photo by H. van Lawick).

Australopithecus / *H. habilis* as well as *H. erectus* were sexually dimorphic, with the female weighing half as much as the male (Howell, 1997; Johanson, & Shreeve, 1989; Leakey, 1994). All larger sized primates are sexually dimorphic and tend to live in multi-male, multi-female groups (Fedigan, 1992), with males competing for access to estrus females who may mate with numerous males. By contrast, smaller and similar sized primates are more likely to be monogamous (Fedigan, 1992).

Hence, we can assume that monogamous sexual relations had not yet been established with the emergence of these pre-humans. Rather, as with chimps, *Australopithecus* / *H. habilis* females were probably highly promiscuous, and males may have only occasionally formed temporary consort relations so long as the female remained in estrus.

AUSTRALOPITHECUS /HOMO HABILIS FEMALE SEXUALITY

As is common among chimps, it can be assumed that colonies of Australopithecus / H. habilis may have been ruled by dominant males or male coalitions. Females and subordinate males probably would bow and grunt submissively or turn and offer their backside for mounting when confronted by dominate males.





Like other social primates (e.g. Bygott, 1979; de Waal, 2007; Goodall, , 1996, 2010; Itani & Suzuki, 1967), dominant *Australopithecus* / *H. habilis* males probably mounted their subordinates and engaged in simulated sexual intercourse. Similar sexual mountings to indicate dominance or submission are employed by gorillas, monkeys, dogs, and humans (Beach, 1965; Eibl-Eibesfeldt, 2007; Ford & Beach, 1951; Joseph 1993; Wickler, 1973). Females were likely mounted even when they were not in estrus.

SEXUAL SURRENDER: BREASTS AND BUTTOCKS

Like her chimpanzee cousins, the first female hominids probably frequently employed sexual postures as a form of appeasement, so as to reduce male tension, anger, and aggression. When confronted by a high status, dominant male, she would "turn him on" and make him behave more friendly toward her by submitting and bending over coyly, offering her buttocks and sexual favors in order to get him into a more pleasant and agreeable mood. To submit and to display mild fear and to be atrembling with emotion was probably a common Paleolithic turn on.

And, not just her posterior oriented genitals but the hairless double ovoid pattern of her rump likely served as a social-sexual signal of submission. The double hairless region of the chimp buttocks has a breast- like pattern.



Female Chimpanzee genitals







(Left) bonobo in full estrus (Right) Human in full estrus

A female chimps breasts become swollen when she is pregnant and lactating and the same was likely true of *Australopithecus* / *H. habilis*. The swollen breasts of a lactating female ape are little different from those of a modern human female.







Moreover, just as the breasts of other female primates are employed not just for nourishing, but for soothing and comforting the young, and sometimes older males (Carpenter, 1942; Eibl-Eisbesfeldt, 2007; Ford & Beach, 1951; Goodall, 1996, 2010; Wickler, 1973), the female *Australopithecus* / *H. habilis* likely employed her breasts in an identical fashion. Over two million years ago our female ancestors were relying on the sex appeal of their swollen breasts to arouse and manipulate the males of their community (Joseph 2000a,b).

In fact, as these hominids were also capable of standing and walking upright, the breasts of the female *Australopithecus* / *H. habilis* may have already become increasingly hairless, thus duplicating, in a sense, the hairless and double ovoid shape of her buttocks. Coupled with the submissive and sexual significance of the buttocks (Jolly, 1985; Joseph 1993; Wallis, 1992; Wickler, 1973), once these initial physical changes in the breast area became established this would have enabled the female to display sexually submissive and appeasement appendages which could be easily viewed regardless of her stance or posture. When bending he could see her rump, and when standing, if facing him, he could see her breasts, which soothed the savage beast.

Like the female chimp, female *Australopithecus* and *H. habilis* probably had evolved an estrus-like menstrual cycle, becoming sexually receptive for only a few weeks in between successive pregnancies. In general female chimps first enter estrus at about age 10 at which point they give off a strong sex smell and their genitals puff out and turn pink (Goodall, 1996, 2010; Wallis, 1992). Hence, like her primate counterparts, once the *Australopithecus* / *H. habilis* female entered estrus, her vaginal region probably turned pink or a bright strawberry red, and puffed out in a posterior direction, while simultaneously secreting sex-related odors.

THE MULTI-ORGASMIC SEXUALLY INSATIABLE FEMALE

As with chimpanzees, if the *Australopithecus* / *H. habilis* female was high status and sexually experienced, she probably purposefully attracted a whole retinue of suitors, some of whom probably offered her meat or prolonged grooming in exchange for sex (e.g., Stanford, et al., 1994; Yerkes, 1933). Modern human females commonly exchange sex in return for an expensive date or the reception of gifts.

Like other estrus primates, the *Australopithecus* / *H. habilis* female was probably capable of exercising a very limited degree of sexual choice (e.g., Dixson 2003, Lancaster, 1978; Tutin, 1975, 1979), while simultaneously behaving in a promiscuous manner; even if guarded by a male who was supremely dominant. That is, although promiscuous, she probably avoided low status and undesirable males and instead repeatedly had sex with the more popular and dominant males as is typical of Chimpanzees.

Females, when in heat, are sexually insatiable, but not entirely indiscriminate. Due to the high sex drive of the estrus female, the females of many primate and mammalian species behave in a sexually promiscuous, though not completely indiscriminate fashion (Carpenter, 1942, 1964; Fedigan, 1992; Ford & Beach, 1951; Stacey, 1982; Zuckerman, 1932). For example, a female chimp may mate with up to 8 different males in just a few minutes, and she may copulate up to 50 times a day for two weeks or more; though she may also solicit many of the same males while refusing sex to lower status males (Goodall, 1996, 2010).

The estrus female of many species commonly advertise and aggressively solicit male sexual attention (Carpenter, 1934, 1942, 1964; Fedigan, 1992; Goodall, 1990, 1996, 2010; Wallis, 1992; Zuckerman, 1932). As noted, among primates, the genitals may puff out, and turn pink or a bright strawberry red. Moreover, female primates typically bend over and sway their derriere enticingly to draw male sexual attention, even rubbing her genitals in the face of males, and she may approach and repeatedly crouch in front of male after male, frantically soliciting sex. Hence, the *Australopithecus* / *H. habilis* female probably did likewise, and like modern (Western/Eastern) females expended considerable effort in advertising her sexuality and to attract male sexual attention. That is, when *Australopithecus*

/ *H. habilis* females became receptive, they probably flaunted their swollen genitals and their sexuality.

Moreover, as with chimpanzees (and modern women), these ancestral hominid females were probably biologically predisposed to seek sex with multiple partners, even risking a severe beating from high status males who were attempting to monopolize her, to do so. Females behaved promiscuously because a single *Australopithecus* / *H. habilis* male (like their chimp counterparts) was probably incapable of satisfying her sexually. Female chimps seek multiple sex partners who provide her with multiple orgasms (e.g. Burton, 1971; Goldfoot et al., 1980; Michael et al., 1974).

A male chimp may make 12 to 20 pelvic thrusts, and take no more than just 10 to 15 seconds to ejaculate (Yerkes, 1939). And, like modern human males (Masters & Johnson, 1966), he then goes into a refractory period in which he becomes drowsy and disinterested in sex (Goodall, 1996, 2010; Yerkes, 1939). Obviously, a single male cannot sexually satisfy a multi-orgasmic female who may well require several minutes of thrusting before experiencing her first of several orgasms. She is motivated to have sex repeatedly, and in the case of the female chimpanzee, she may do so 50 times a day. Multiple male sex partners also ensures she will not only become pregnant but that all males will be solicitous of her young as they may be aware of the possibility they are the father.

MULTIPLE ORGASMS & PROMISCUITY

The female chimpanzee, like modern human females and other primates, is capable of having sex with multiple partners, one after the other. She also appears capable of experiencing increasingly pleasurable multiple orgasms (e.g. Burton, 1971; Goldfoot et al., 1980; Michael et al., 1974); each successive orgasm rewarding her for her promiscuity. The ability to experience multiple orgasms promotes promiscuity.

Female primates which experience orgasm are not monogamous (Allen & Lemmon, 1981; Burton, 1971; Chevalier-Skolnikoff, 1974), and few males are biologically capable of providing the stimulation necessary for multiple, or even single orgasms. Males quickly become sexually unresponsive. Females, therefore, are sexually motivated to search for that next orgasm and require the sexual services of additional males.

Primate males such as the rhesus, howler, gorilla, and chimpanzee, typically become unresponsive to the aggressive sexual solicitation of the female after three or four ejaculations in a single day, and cease to respond after three or four days of sexual activity (Carpenter, 1942, 1964; Nadler, 1976; Schaller, 2000, 2010; Yerkes & Elder, 1936; Zuckerman, 1932). In these and other species, the sexual hunger of the female, and her capacity for copulation, completely exceeds that of any single male.

"A single estrus female may satiate, entirely... several sexually vigorous males" (Carpenter, 1942, p. 141). Female chimps, baboons, gorillas, monkeys, and humans are capable of exhausting male and after male without showing any lessening of sexual desire (Carpenter, 1942, 1964; Goodall, 1996, 2010; Ford & Beach, 1951; Zuckerman, 1932).

THE SEXUAL DIFFERENTIATION OF THE LIMBIC SYSTEM

In part the unlimited sexual capacity of the female is related to the sexual differentiation of the limbic system, the hypothalamus and amygdala in particular--structures directly implicated in sexuality including sexual posturing and orgasm (Hart et al., 1985; Lisk, 1967, 1971; Joseph 1990, 1993, 1996, Maclean, 1969, 1990). It is the limbic system which enables a man or a woman to not only become sexually aroused, but which can distinguish between men vs women, and male and female faces and bodies. It is the limbic system which becomes sexually aroused when gazing at or touching a male or female body--depending on if one has a "male" or "female" or "homosexual" limbic system.

Specifically, the female amygdala differs from the male in that it contains more densely packed and smaller neurons (Bubenik & Brown, 1973; Nishizuka & Arai, 1981); and smaller, closely packed neurons fire more easily and more frequently. This is significant as activation of the hypothalamus, for example, triggers and/or increases female sexual behavior including thrusting and sexual posturing even in the absence of a mate (Hart et al., 1985; Lisk, 1967, 1971; Maclean, 1973). The amygdala typically fires up and activates the hypothalamus.

And the massive fiber pathway that connects the right and left amygdala, is 17% larger in women than men (Allen & Gorski, 1993). The tremendous expansion in the fiber pathways linking the two amygdala, provides these sexually active structures an enhanced capacity to communicate and to become mutually excited in the female brain. This also explains why females are generally more "emotional" than males (Joseph, 1996, 2000a,b).

Likewise, activation of the female amygdala can produce clitoral engorgement (Kling & Brothers, 1992; MacLean, 1990; Robinson & Mishkin, 1968), and trigger sexual feelings (Remillard et al., 1983). Activation of the amygdala can induce pleasurable thoughts and memories of sexual intercourse (Gloor, 1986, 1997), as well as ovulation, uterine contractions, lactogenetic responses, and orgasm (Currier et al., 1971; Freeman & Nevis, 1969; Remillard et al., 1983; Shealy & Peel, 1957).

For example, Currier et al (1971, p. 260) described a female temporal lobe seizure patient who was "sitting at the kitchen table with her daughter making out a shopping list" when she suffered a seizure. "She appeared dazed, slumped to the floor on her back, lifted her skirt, spread her knees and

elevated her pelvis rhythmically. She made appropriate vocalizations for sexual intercourse such as: It feels so good... further, further."

Moreover, direct electrode activation or seizure-induced stimulation of the amygdala is far more likely to trigger sexual behavior in women and females, as compared to males. Females become more sexually excited and sexually aroused than males, and can stay sexually aroused for significantly longer (Ford & Beach, 1951; Masters & Johnson, 1966).

Therefore, group living female primates, possessing a limbic system organized in the "female pattern" behave like stereotypical females in heat when in estrus, and the same was no doubt true of ancestral human females. It is only with the evolution of the frontal lobes, during the upper Paleolithic, that these limbic lusts came to be inhibited, such that, in consequence, ancestral females became more discreet (Joseph 2000a,b).

PRIMATE PROMISCUITY

When a female chimpanzee or monkey enters estrus, her limbic system becomes highly active, and (unless well guarded), she will frantically solicit male after male for sex, by swaying her buttocks enticingly, or by repeatedly crouching and presenting her genitals for mounting.



She frantically seeks sex with male after male because she is impelled by her limbic system, and as each member of the opposite sex provides her with the possibility of experiencing a single or multiple orgasms. Only after she has been mated by several males in rapid succession does her frantic solicitation come to a momentary end (Goodall, 1996, 2010; Nishida, 1990); that is, once she has achieved a final explosive orgasm.

A female chimp may copulate 20 to 50 times in a single day. Similarly, when the female rhesus monkey enters estrus, she becomes increasingly sexually

aggressive, repeatedly soliciting males, and may copulate 10- or more times a day with 60 or more copulations taking place in a 9 day period.

Likewise, female Bonobos, monkeys, and even harem living gorillas tend to be quite promiscuous (Carpenter, 1934, 1942, 1964; de Waal, 2007; Schaller, 2000, 2010; Zuckerman, 1932). Although female gorillas live in a harem which is dominated by a single silver back male, they will also mate with lower ranking gorillas, often under the watchful eye of the dominant male, that is, after he has mounted her and ejaculated (Schaller, 2000, 2010).

Although males may jealously guard their females, the males of many species, including humans, also enjoy watching females having sex. Viewing estrus females having sex with male after male may have been a "turn on" for 5 million years.

THE MULTI-ORGASMIC FEMALE

It is likely that when the female Australopithecus / H. habilis entered estrus, she also engaged in multiple sexual liaisons, even if dominated and guarded by a single male. And like chimps and other primates, she likely experienced multiple orgasms. The capacity to enjoy and solicit multiple orgasms has been passed down to modern females, who, like her primate counterparts, is capable of having sex with multiple males and experiencing multiple orgasms in a single day.

According to Masters and Johnson (1966) "If a woman who is capable of regular orgasms is properly stimulated after the first climax she is capable of having a second, third, fourth, and even fifth and sixth orgasm within a matter of minutes." And, just as a female chimp may copulate from 20 to 50 times in a day, the human female is capable of having "20 to 50 consecutive orgasms. She will stop only when totally exhausted."

Subsequent orgasms are even more satisfying and pleasurable than the first. Even women who are described as "frigid" by the strictest of standards, are capable of experiencing intense multiple orgasms following short-term therapy (Masters & Johnson, 1966).

Between 14% to 42% of women admit to experiencing multiple orgasms (Darling et al., 1991; Hite, 1976; Kinsey, et al., 1953). The number may well be considerably higher, however, as women are not always truthful about sex. In general, those who admit to experiencing multiple orgasms are more sexually assertive and willing to engage in a variety of sexual activities and tend to feel less restricted by societal norms (Darling et al., 1991). Thus, they are more likely to seek out multiple partners and to expect multiple orgasms. As noted, orgasmic female primates are not monogamous (Allen & Lemmon, 1981; Burton, 1971; Chevalier- Skolnikoff, 1974) as males are generally incapable of completely satisfying them, and this includes the human male.



"Bacchanal" by Titian. 1518.

THE MALE SEXUAL REFRACTORY PERIOD PROMOTES FEMALE PROMISCUITY AND SOCIAL COHESION

As Masters and Johnson (1966) have also pointed out, few men are capable of maintaining an erection long enough to produce multiple orgasms in a woman. Again, this is due to males experiencing a "refractory period" following their own orgasm, which may last minutes or hours before they are capable of getting a second erection.

This male sexual "refractory" trait is also part of his primate heritage, and at one time was quite adaptive as it insured that once satisfied, he would not have the energy or the inclination to interfere with those males still waiting their turn for sexual intercourse. Rather, he could sit back and enjoy the spectacle.

This physical-sexual state of affairs undoubtedly contributed to group stability and cohesion, and provided highly stimulating sexual entertainment on a regular basis. In consequence, females became adapted to being watched and males and females became adapted to watching the sexual exploits of an estrus female.

Therefore, as exemplified by other animals, when the *Australopithecus / H. habilis* female entered estrus she probably had sex with most (but not all) of the males in camp. This frenzied sexual activity and her uncontrollable sexual desires guaranteed she would become pregnant, and also insured that most males would be solicitous of her young, as there would be some possibility he was the sire.

Over the course of evolution, these same promiscuous traits were passed on to modern females, including the tendency to ovulate (and thus become pregnant) when indulging in increased sexual activity, including aggressive sex such as rape (Brownmiller, 1975; Ford & Beach, 1951; Veith et al., 1983).

Hence, whereas the modern human male is biologically capable of providing only brief periods of sexual stimulation to a single female, the human female is biologically organized to have sex with multiple partners, one after another, and may ovulate (and may become pregnant) if she has repeated or vigorous sexual contact. She is rewarded physiologically for indulging in promiscuous sexual activity, as multiple partners can provide her with multiple orgasms; each successive orgasm becoming increasingly pleasurable and satisfying (Masters and Johnson, 1966). It is because of her unlimited sexual capacity that human female prostitutes can have sex with multiple men, and sometimes dozens of men, in a single day.

Hence, like chimpanzees, most estrus female *Australopithecus / H. habilis* (unless they were well guarded) were probably able to freely mate with almost every male of their choosing and had sex with multiple high ranking male partners.

Moreover, when several *Australopithecus / H. habilis* females became receptive simultaneously, it is likely that "a carnival atmosphere prevailed" due to the sexual frenzy that was probably generated (e.g., Goodall, 1990, 1996, 2010). That is, not just every male of the community, but most non-estrus females would gather to watch or participate in the sexual activities, thus generating a high level of sexual excitement.



Bonobo orgy

As is common among many social (and non-social) species, an estrus female will attract numerous males who gather around in the hope of obtaining sexual satisfaction. Estrus females, however, also attract the attention of other females who, like the males may react with sexual arousal (Carpenter, 1942; Chevalier-Skolnikoff, 1974; Fedigan, 1992; Michael et al., 1978; Wallis, 1992). Commonly, however, although sexually aroused, nonestrus females also react with jealousy (Frame et al., 1979; Goodall, 1996, 2010; Mech, 1970).



A female monkey observes a male and female having sex and then interrupts the "love-making", forcing the male to experience "coitus interruptus."

Because of the emotions she inflames, an estrus female contributes to group formation (attracting males and females). Likewise, jealous feelings, which when experienced by a number of nonestrus females, also generates group cohesion, the uniting of females against a common "enemy." Thus among social living primates, all are welded together by the passions an estrus female inflames. Although males and females may appear to be at cross purposes in this regard, they share in the common goal of preventing an estrus female from mating with other males.

In recent and ancient times women had to be carefully guarded, not just because of her promiscuous nature, but as other males might invade and steal these women. The males would often band together to protect their property, and that property included women. Woman, therefore, contributes to social stability and group cohesion not only among primates, but humans. The same behaviors and attitudes, therefore, probably also characterized *Australopithecus* / *H. habilis* social sexual relations.

For example, as is the case with chimps, adult *Australopithecus* / *H. habilis* males may have felt compelled not only to compete for her sexual favors, but to guard against male invaders from neighboring colonies -- particularly if several females became receptive simultaneously (e.g. Gagneux et al., 1997; Goodall, 1990, 1996, 2010; Nishida, 1990). That is, the males would bond together in a common purpose which is to maintain access to estrus females. This is accomplished by patrolling their territory and by guarding their estrus female-containing land area.



Male Chimps patrolling their territory

THE FIRST "ROMANTIC VACATIONS"

As with chimpanzees, when several *Australopithecus* / *H. habilis* females entered estrus simultaneously, the males were probably stimulated to band together to patrol the boundaries of their territories to guard against and prevent the theft and rape of their females by foreign males. Among chimps, these patrols are also designed to prevent their estrus females from slipping away to have sex with the males of a neighboring troop (Gagneux et al., 1997; Goodall, 1996, 2010; Nishida, 1990). Although usually successful in preventing foreign males from entering their territories, male chimps are generally unable to prevent their estrus females from sneaking over the border (Gagneux, et al., 1997; Goodall, 1990, 1996, 2010; Pusey et al., 1997). Modern women refer to these escapades as "romantic vacations", or

they may explain that they "love to travel" which can also mean: they travel to make love.

Attempts to prevent foreign hominid males from mating with estrus Australopithecine/ *H. habilis* females also likely failed (e.g, Gagneux et al., 1997); especially if she was young and childless. As is common among chimps, young estrus hominid females would likely sneak off to have sex with the males of a neighboring troop--her swollen pink posterior oriented genitals serving to guarantee her a safe journey as a nonestrus female may be beaten or killed by gangs of chimps from neighboring colonies.

Approximately 50% of young estrus chimpanzee females leave their natal group to have sex with neighboring males (Pusey et al., 1997). In fact, the young Australopithecus / *H. habilis* female may have left her own group not just because she was feeling sexually adventurous but due to lack of male sexual interest. Adult males might completely ignore her first estrus and her swollen genitals, responding to her instead as if she were still a child (e.g., Goodall, 1990, 1996, 2010).

Thus, initially young estrus Australopithecus and *H. habilis* females may have repeatedly made visits to neighboring troops in order to engage in one prolonged sex orgy. Like chimps, these females probably only returned to their home range after becoming pregnant and to reestablished a close relationship with their mothers and siblings. In fact, if their mothers became sexually receptive at the same time, they may have wandered off together in search of male sex partners, which again, is common among chimpanzees (Goodall, 1990, 1996, 2010).

MALE SEXUAL POSSESSIVENESS

Troops of Australopithecus / *H. habilis* were probably dominated by a single male or coalition of two or more males. The most dominant males would probably attempt to maintain exclusive mating rights with those estrus females who were particularly attractive and high status. And, as with chimps, even if a single male was able to obtain a position of absolute power, he probably shared those high status estrus females with a brother or those males whose support he required in order to maintain dominance.

Nevertheless, like her chimpanzee counterpart, even those Australopithecus / *H. habilis* females who were well guarded probably engaged in numerous clandestine sexual encounters (Gagneux et al., 1997). As male primates, including humans, typically ejaculate after only thirty seconds or a minute or two of inserting his penis, a female need only escape from her "captors" for a few minutes or less, in order to have sex with one or more males.

Be it human or chimpanzee, the female is biologically inclined to mate with numerous males, usually one after another, and may do so even when threatened by physical violence. As described by Goodall (1990, p. 56) even well guarded females will have sex with other males, especially if "the

attention of the alpha male and his brother are diverted. Once three other males copulated with their female in quick succession and neither brother noticed." Though if they did notice, the alpha male "would race towards the pair and bash the female for her faithlessness."

THE FIRST "HONEYMOON"

Dominant primate males tend to become interested in an estrus female only when she is fully in estrus and displaying maximum genital swelling. Because the attention of the other males has also been aroused, and as she is becoming increasingly sex crazed, it is simply impossible to guard her at all times and prevent her from mating with the others; that is, unless he spirits her off to some lonely location before anyone else notices her changing condition.

As is the case with chimpanzee, if a high status, dominant *Australopithecus* / *H. habilis* male was the first to notice that a particularly attractive, high status female was just beginning to become receptive, he may have attempted to entice, coerce, or beat and brutally force her to accompany him to some isolated spot where they would "honeymoon." Beating and terrifying her, and forcing her to completely and fearfully submit, may have even served as a form of pre-honeymoon foreplay. Sexual force and violence is common among innumerable species, including humans.

For example, if a desirable, estrus female is alone and a high status male chimp is the first to detect her sexual swelling, he will quietly signal his intentions by standing upright and displaying his erect penis (Nishida, 1968, 1970; Goodall, 1996, 2010). In order to coax her into accompanying him to some isolated spot, he may also pick up and menacingly wave a long tree branch in her direction; as if he were holding a whip. If she doesn't respond, the male will leap upon her, beating, pounding, and then dragging her off.



Usually this brutal approach to love making elicits some reluctant compliance, although the female may whimper and cry. Following this brief episode of sexual violence, he will slowly walk away, shaking the branch in her direction, coaxing her to follow. If she becomes reluctant to follow and refuses his demands, he will again attack and brutally force her to follow him to an isolated spot, far away from where the main body of the troop congregates (Goodall, 1996, 2010; Tutin, 1975). Once he achieves his goal this antagonistic, obnoxious, painful bullying ceases and he instead becomes exceedingly gentle and a most attentive lover.



Although chimpanzee "feminists" might decry and protest this male sexual violence, it should be stressed that the female chimp who allows herself to be bullied and dragged off obviously enjoys and is excited by the brutality. No male could force her to accompany him if she truly did not want to go. She need only scream and other males would come running to the sexual rescue (Goodall, 1990, 1996, 2010; Tutin, 1975, 1979).

Indeed, if a male is low status, or if she does not find him sexually exciting, she would completely thwart any attempt to monopolize her affections by not just screaming, but aggressively advertising and calling attention to her changing sexual status (Tutin, 1975, 1979; Wallis, 1992).

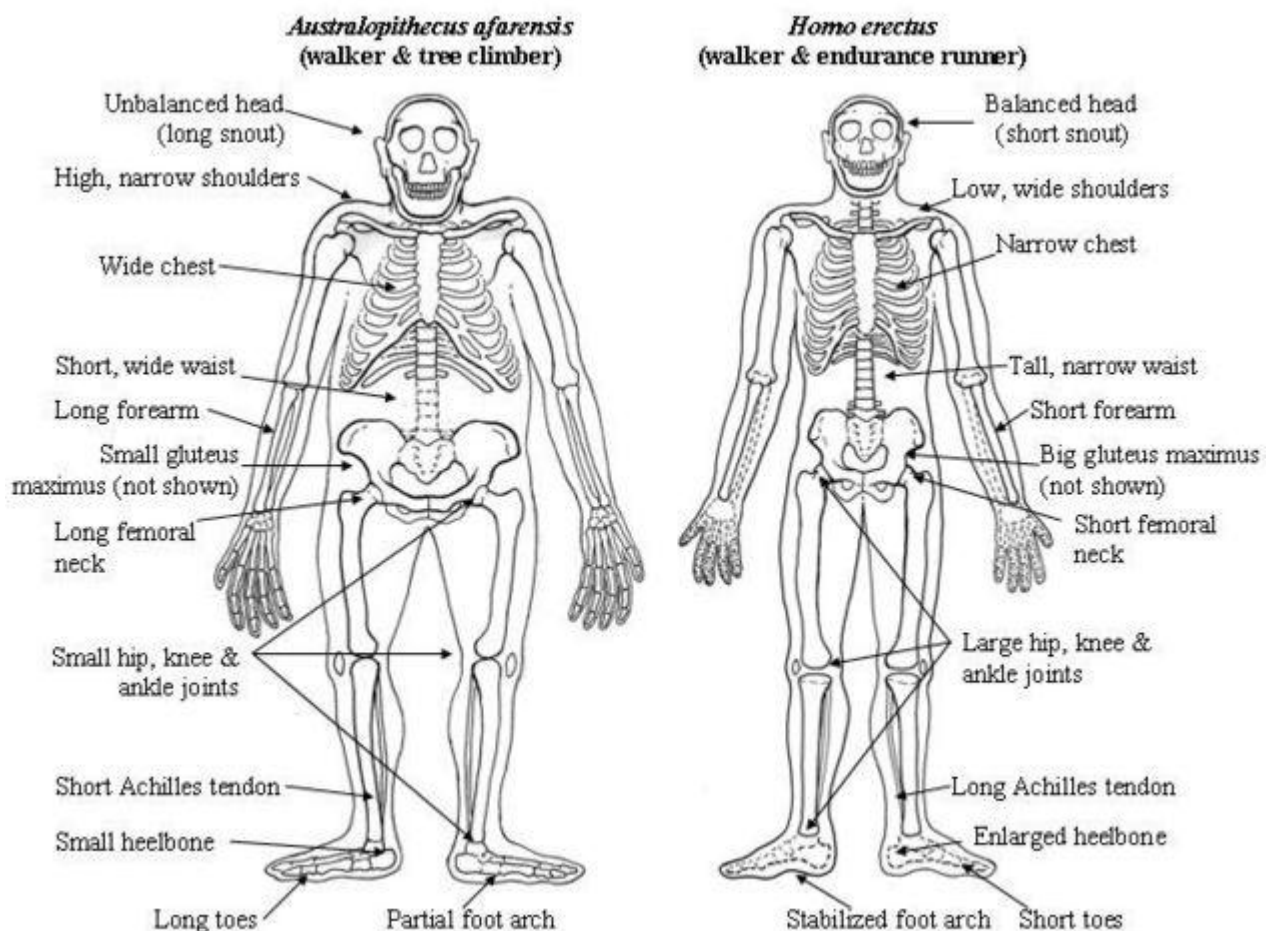
Thus, this honeymooning behavior is dependent not only on male persuasion, but the willingness of the female to accompany him. Although she may cry and whimper, if she truly did not wish to be monopolized (or brutalized), she need only scream loudly in order to draw the attention of the other males, who, of course, would not be inclined to allow an estrus female to be spirited away.

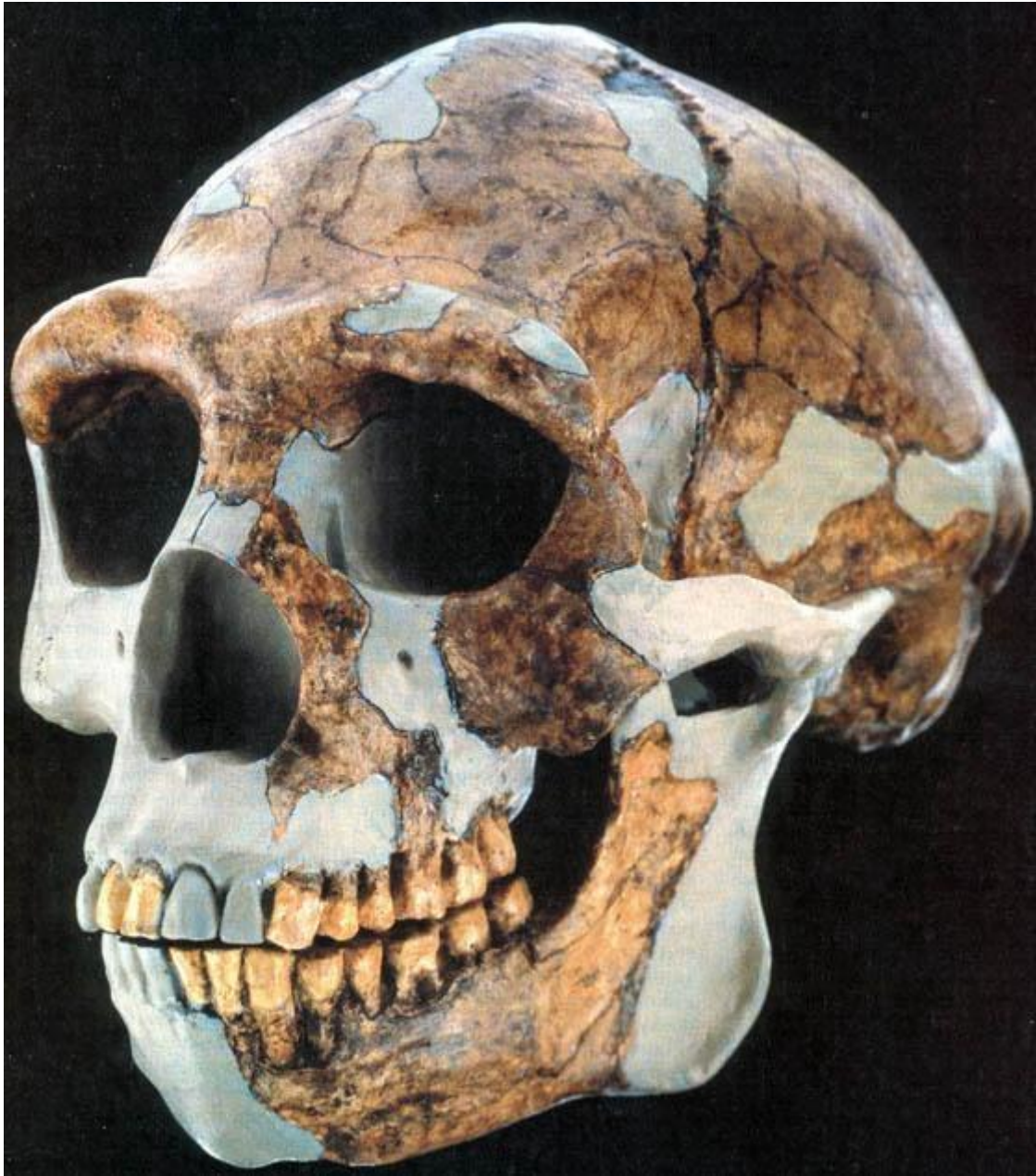
Indeed, not only is the female chimpanzee excited and sexually aroused when a high status male bullies, forces, and rapes her, but young women who are "date raped" respond likewise (Ellis, 1989; Wilson & Durrenberger, 1982). Most young women who are date raped repeatedly fantasize about the experience, and, more importantly, they continue to date and have sex with their "rapists."

HOMO ERECTUS

Australopithecus is a generic name for over a dozen different species of hominids who dwelled throughout parts of Africa and the Far East, from 4.4 to 2 million years ago (Howell, 1997). Moreover, between 3 million and 1.7 million years ago, at least seven different species of hominid coexisted throughout East Africa (and probably the Far East). In general, these hominids appear to have congregated near rivers and lake shores (Leakey, 1994).

Australopithecines flourished for almost 3 million years. The reign of *H. habilis* was comparatively brief. *Homo habilis* emerged and disappeared within a span of half a million years, becoming extinct about 1.6 million years ago. Presumably, they were completely replaced (if not eradicated) by *H. erectus*.



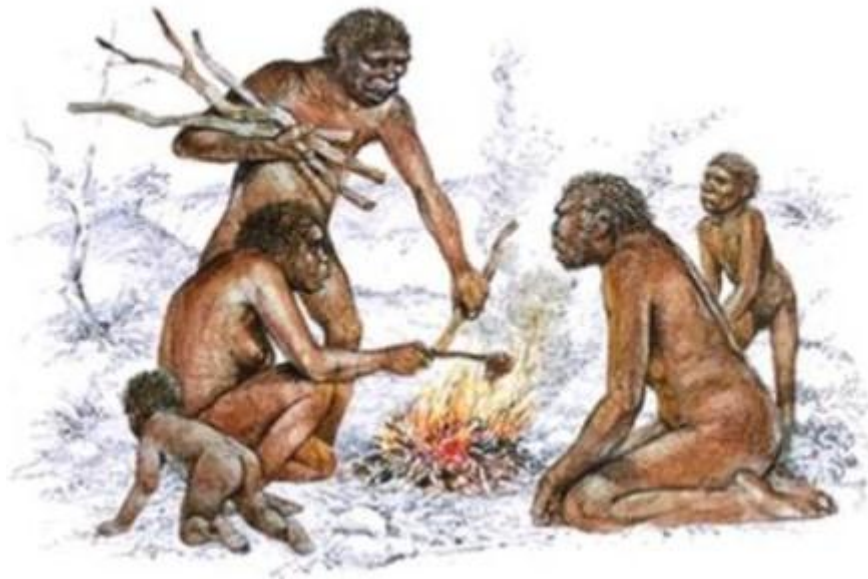


Homo erectus were big, tall, and robust, with thick browridges, large teeth, and bulging shoulder muscles (Day, 1996; Luca 2010; Potts, 1996; Rightmire, 1993). These hominids ranged throughout Africa, Europe, Russia, Indonesia and China from approximately 1.9 million until about 300,000 years ago (Day, 1996; Luca 2010; Potts, 1984, 1996; Rightmire, 1993), with a few isolated populations possibly hanging on in the island of Java, until 27,000 years B.P. (Swisher et al., 1996). Thus, *H. erectus* emerged almost immediately after *H. habilis* appeared upon the scene, and may well have been responsible for the demise of this hominid and any remaining Australopithecines.

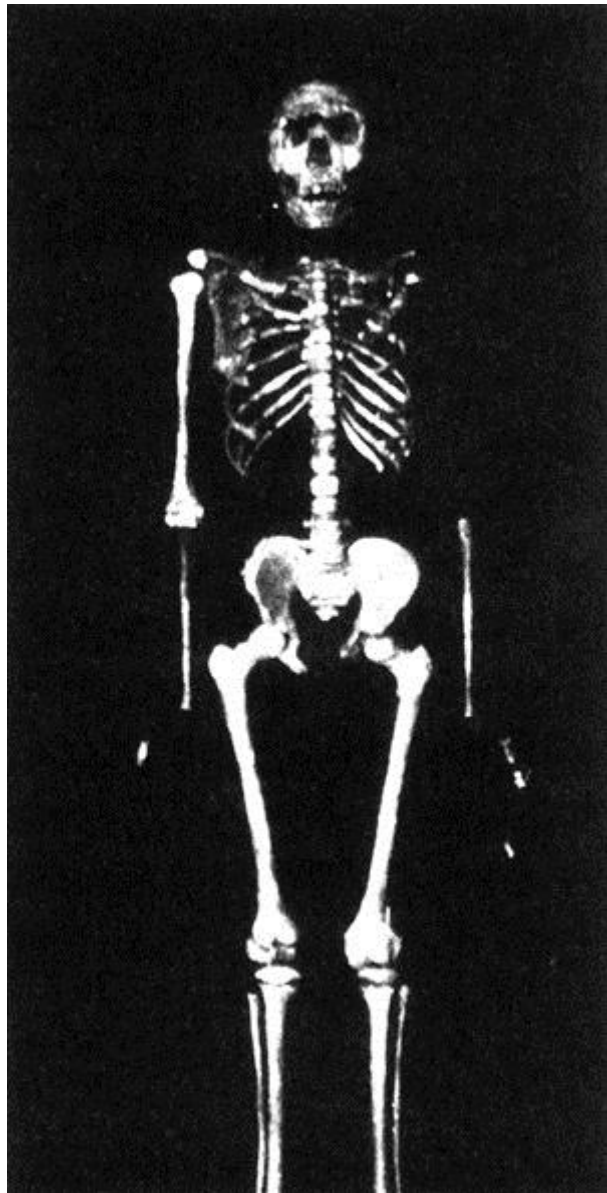
Presumably, *H. erectus* is the common ancestor for Neanderthals, Cro-Magnons, and modern humans. But the truth is, no one knows.

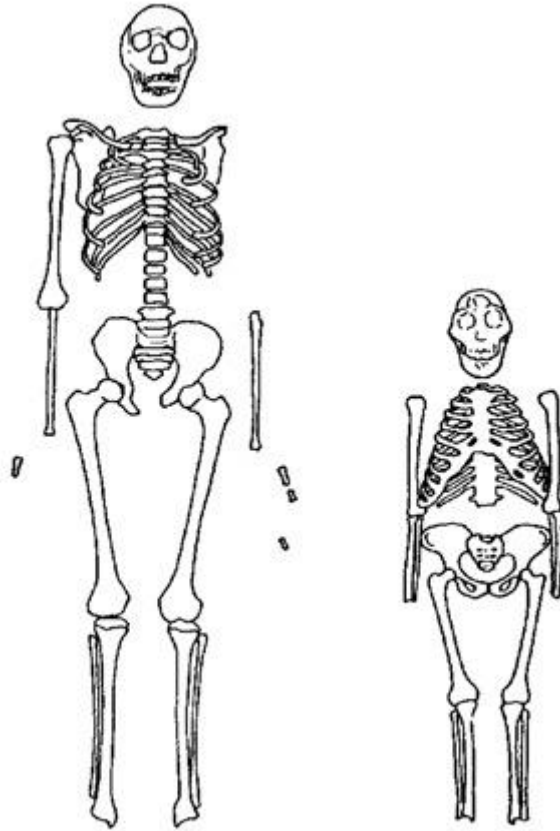
FIRE

Early *H. erectus* was rather small brained, that is, as compared to modern *H. sapiens sapiens*, with a cranial capacity of about 800 to 900 cc (Tobias, 1971) compared to 1350 cc for modern humans. In all other respects, however, *H. erectus* was highly intelligent and resourceful, and may well have been constructing camp sites 1.8 million years ago. As with later hominids, these camps were established near rivers and lake shores, and served as semi-permanent as well as transitory sites where stone tools could be constructed and animals butchered (e.g., Isaac, 1971, 1981, 1982; Leakey, 1976, 1978).



Hence, in contrast to chimps and other primates who eat as they range and forage, *H. erectus* was returning to the camp site with food that had been gathered, scavenged, or slaughtered, so that it could be shared with their compatriots. In general, early *H. erectus* appears to have lived in groups that consisted of around 50 individuals on average (Clark, 1977).





Homo erectus (left) and Homo habilis (right).

Camp sites are not the equivalent of a home base. In this regard, the behavior of early *H. erectus* was merely an antecedent of more complex cognitive activities that this species of humanity would evolve over the ensuing million years. For example, by 1.5 million years ago, *H. erectus* invented a simple stone technology (the Acheulean), and created the first hand ax. By 700,000 B.P (and perhaps before 1.5 million years B.P.) they had apparently learned how to harness and control fire (Clark & Harris, 1985; Gowlett et al., 1981; Isacc, 1982).

THE FIRST HONEYMOON HOMESTEADS

It was not until about 500,000 years ago, that the first hearths began to appear in China, France, Hungary and elsewhere (Clark & Harris 1985; Rightmire, 1993; Zhang, 1985). This time period and these accomplishments also corresponds to the emergence of late *H. erectus* (and early archaic *H. sapiens*), and the construction of crude shelters and the establishment of permanent home bases (Clark & Harris 1985; Potts 1984, 1996; Rightmire, 1993). These later achievements also appear to have coincided with a major change in female sexuality and the evolution of a bigger brain (Joseph, 1993, 2000a,b).

As noted, among chimps, its not uncommon for a dominant male to threaten and physically force a high status estrus female to accompany him away from the troop, and to establish a temporary home base where he provides

her with an inordinate amount of attention including meat from any animals he has killed. However, once she ceases to be sexually receptive he loses interest and returns to the troop (Goodall, 1990, 1996, 2010).

Given the association between a temporary home base and estrus, the establishment of permanent home bases and the creation of shelters equipped with fire place and a crude kitchen, around 500,000 B.P., may indicate that the *H. erectus* female had completely lost her estrus. She became sexually receptive at all times, and developed those secondary sexual characteristics, i.e. permanently enlarged breasts and buttocks, which served to signal her continual sexual availability. This change in her sexual status likely motivated at least some *H. erectus* males to form a long term mating relationship and to establish a personal and permanent home base (Joseph, 2000a,b).

It is also possible, however, that it was females who first formed the permanent home base, or rather, the first permanent home sites. In either case, it appears that males began living with these females at a home base site on a semi-permanent basis once she became continuously sexually receptive.

THE EVOLUTION OF THE BREASTS

The breasts of the female primate stereotypically become swollen and enlarged when she is nursing. Sucking on swollen breasts has an exceedingly long evolutionary history and has no doubt been a source of satisfaction and pleasure for millions of years.

Female primates may also use her breasts as a signal to her young that she wishes for them to come to her (Wickler, 1973). She may stand upright and display her breasts, or she may raise her arms to maximize the view of the breast in order to get the attention of her young or a potential sex partner.

Baby apes and monkeys will seek the security of the breast. When insecure or frightened they will bury their heads in the mother's chest and take hold of or bite onto the breast and suck while fearfully watching whatever has frightened them (Eibl-Eibesfeldt, 1995; Jolly, 1985). When upset or afraid and seeking comfort, adults, including humans, also tend to bury their head in the chest of another adult who may then wrap their arms around them protectively.

The breasts of some female primates are also employed as a sexual signal and erogenous zone. For example, female rhesus monkeys have been observed to pull and suck on their own nipples when they enter estrus and to display them to potential consorts (Carpenter, 1942). She plays with herself and offers the male the chance to do likewise as she finds this activity sexually pleasurable.

In addition, social living primates may become aroused by the female breasts and may fondle and suck on them. For example, the male baboon will lip

smack on the female's teats, presumably as a sign of affection or sexual arousal (Ford & Beach, 1951).

FROM BUTTOCKS TO BREASTS

The breasts have been an powerful social-sexual signal for millions of years. Initially, however, the breasts of the Australopithecus / H. habilis female may have served only as a secondary sexual treat. Among female primates, the posterior oriented genitals and derriere serve as the primary sexual advertisements, puffing out and turning pink or bright red when they enter estrus.

The primate breast area is generally covered with hair, and with few exceptions (e.g. the gelada baboon), they only becomes swollen and distended when the female is pregnant or lactating. Among female chimps, these swollen breasts look remarkably like the breasts of the human female, though they are somewhat hairy--though less so when swollen.







As noted, the hairless region of the primate buttocks is patterned in a double ovoid (breast-like) pattern, and even when they are not in estrus, females employ their buttocks to convey sexual appeasement and to signal submission, inviting dominant males to mount them. However, in this regard, males were being exposed to and becoming aroused by not just the swollen buttocks, but swollen buttocks that also display a breast-like pattern. The breasts, or rather a breast-like pattern, likely assumed sexual significance millions of years ago (Morris, 1968), well before the evolution of breasts that remained swollen and distended even when not pregnant or lactating.

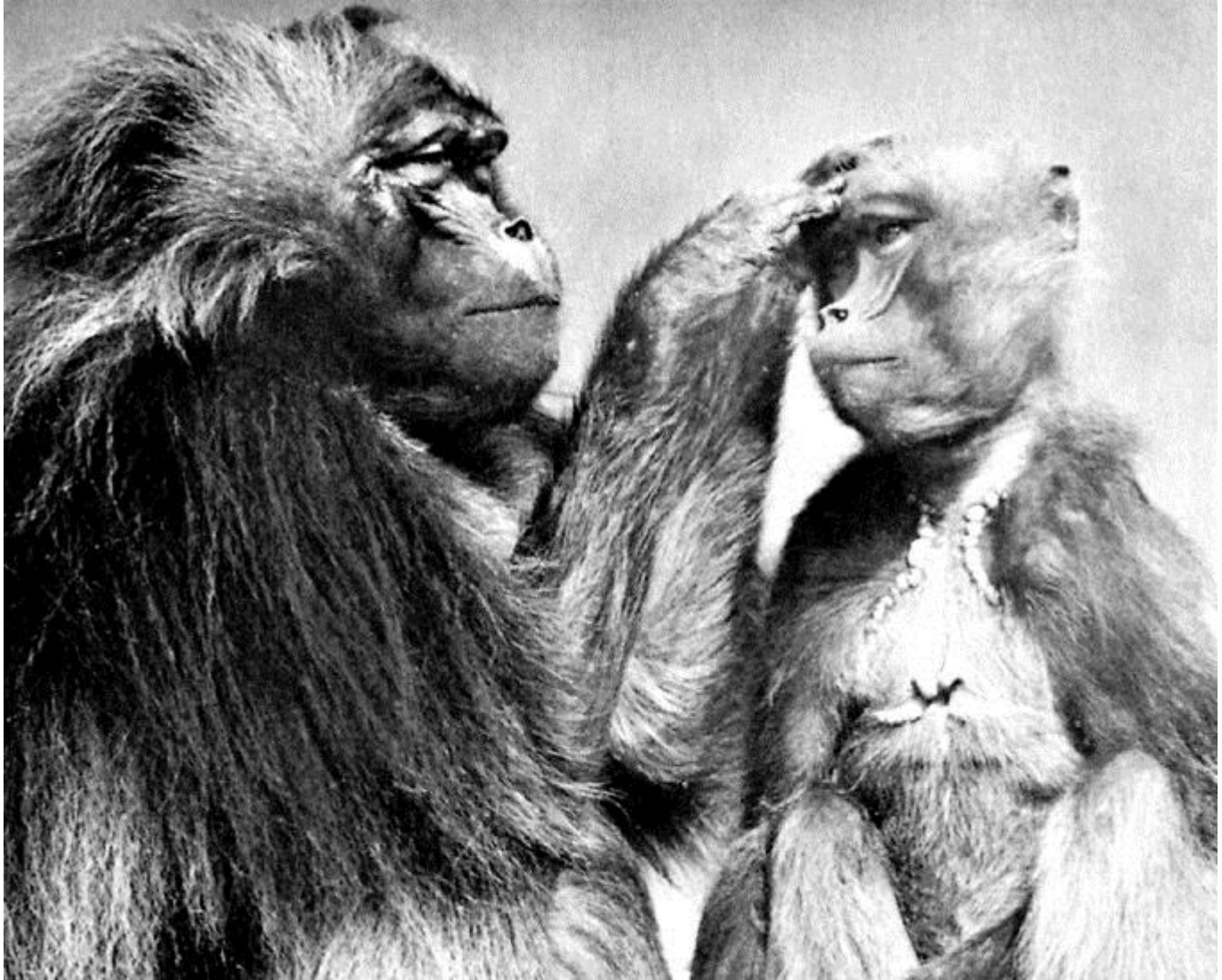
Thus we see that breasts, in-themselves, can induce sexual arousal, and that the buttocks and posterior directed genitals, which in primates is the primary sexual appendage, also presents a breast like pattern. It thus appears that over the course of evolution and due to sexual selection, that the breasts also became enlarged, and remained permanently swollen and

distended, due perhaps to their powerful effects on males who would selectively breed with females with swollen breasts.

Because the primate (chimpanzee) buttocks presents a breastlike pattern, and because the primate breasts were initially hairy and flat, it appears that at least in part, the human female breasts may have become permanently enlarged secondary to sexual selection, and as they potentially resembled the double ovoid region of the distended buttocks which in turn are employed to signal appeasement as well as sexuality. In other words, over the course of evolution, the breasts became permanently enlarged, and thus a permanent sex symbol to signal that she was continuously sexually receptive, due to their resemblance to the distended estrus buttocks.



Consider, for example, the estrus gelada baboon, who advertises her sexual status via genital swelling and the enlargement of her chest nodules which flush red (Fedigan, 1992; Jolly, 1985). These chest nodules form a necklace-like pattern which mimics the pattern of her rump. Thus we see that not only does the primate buttocks provide a breast-like pattern, but as the primate breasts began to evolve, they also assumed a buttocks-like pattern.





The chest nodules of a Gelada baboon which mimics the pattern of her rump and also flushes bright red.

Because baboons generally walk on all fours the chest area is not easily viewed. The buttocks serve as the primary sexual signal in these primates (Kummer, 1971). Similarly, although chimpanzees will sit and can stand as well as walk upright, it is the derriere which is primarily employed for indicating sexual availability and appeasement. In this regard, it can be predicted that as hominids learned to stand upright and walk on two feet, and as the chest area was continually exposed, that the breasts also assumed a primary role in signaling sexuality, one equal to that of the swollen derriere.



Therefore, as hominids evolved the capacity to walk upright, it appears that the importance of the breasts for the purposes of signaling appeasement, submission, as well as sexuality, became emphasized. Thus over the course of human evolution (and due to selective mating patterns, i.e. sexual selection), the breast area became increasingly hairless--thus mimicking the double ovoid pattern of the buttocks--and began to permanently puff out, thus mimicking the sexual swellings of the derriere and dorsally oriented genitals.

High status male chimps prefer to mate with high status females (and vice versa); that is, females which are the most attractive. It can be presumed that once the breasts began to evolve, those females with the most prominent breasts would have been the most *attractive* and would have a greater status than her more flat chested female competitors. In consequence, as the more dominant males mated with the females who were attractively endowed, the young they produced would have been more *fit* (thanks to the inheritance of genes from dominant males), and over time females with larger breasts would have had a superior genetic endowment and would have been more likely to survive and grow big breasts and then breed big breasted daughters. By contrast, flat chested (less attractive) females would produce young less likely to survive as these females were more likely to mate with low status (inferior) males.

Females with breasts eventually became the normal, and these big breasted females had the capacity to sexually arouse a male, regardless of if she was sitting, lying down, or walking away or toward him. Regardless of her posture, males could be sexually aroused by the female body and her rounded buttocks and ripe swollen breasts.

SWOLLEN BREASTS, LACTATION, AND SEXUALITY

Although the first naked breasts may have emerged with the evolution of *Australopithecus* and *H. habilis*, they probably did not begin to significantly enlarge in size until much later in human development; an event that likely corresponded to the evolution of full time female sexuality receptivity (Joseph, 2000a,b). Indeed, the human female is the only (noncaptive) female that is continuously sexually receptive, and the only mammal on this planet who possesses breasts which remain enlarged even when she is incapable of becoming impregnated, nursing or producing milk.

The breasts are an obvious sexual signal which invite, solicit, and trigger male sexual arousal. Permanently swollen breasts serve no other purpose other than to advertise the fact that the female who possess them is ready (and possibly willing) to have sex. Thus, when she became capable of having sex at all times, she evolved permanently enlarged swollen breasts to signify her sexual availability.

Permanently swollen breasts serve no other purpose other than to induce sexual arousal, which is why they remain enlarged even when she is not pregnant or lactating. The size of the human female breasts, in fact, have nothing to do with the amount of milk produced by a lactating female. The breasts contain high levels of fat, whereas the milk ducts are stimulated to grow only during pregnancy and sprout from a connective tissue called stroma.

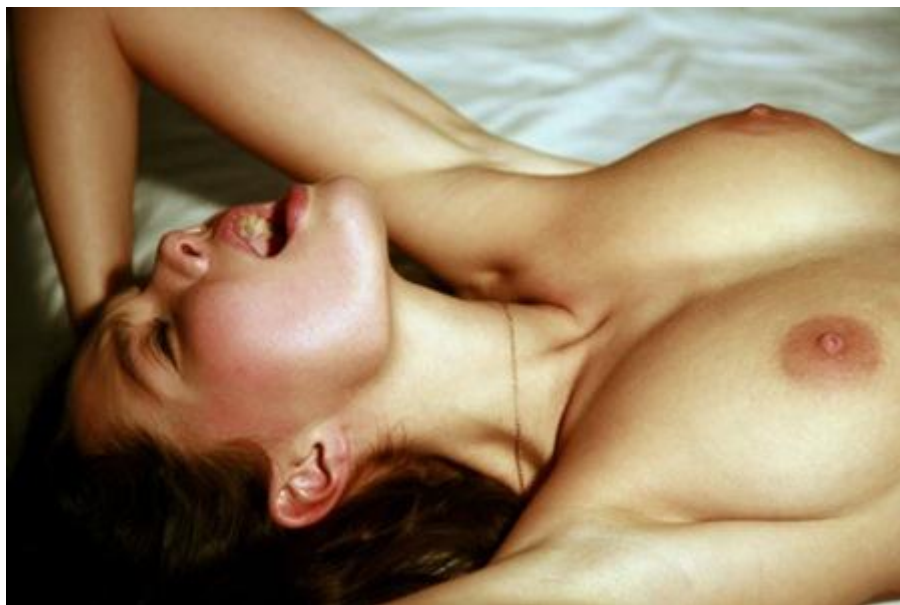
Although it is true that fertility is associated with the development of critical proportions of body fat, and that decreases in fat are associated with decreases in fertility (Frisch, 1988), it is not likely that the female breasts

become permanently enlarged as a depository of extra fat in case of famine, as has been suggested by some authors. It is the buttocks, thighs, and stomach area which generally serve as a fat depository. Although a human female requires an increase of about 12% in caloric intake during pregnancy and an additional 15% to 25% while breast feeding (Frisch, 1988), the same is true of other female primates and mammals whose breasts only become enlarged during pregnancy and lactation.

Female primates spend much of their adult life pregnant or lactating, and reproductive activity has high energy costs; much more than the typical human. Hence, even when they are not pregnant female primates "tend to eat more and/or faster, and/or for longer time periods than males... " even when "the male is bigger than the female" (Fedigan, 1992, p. 58). Therefore, if breasts evolved for the purposes of storing fat in case of famine, and did not evolve to signal continuous sexual receptivity, then female primates would have also evolved permanently enlarged breasts.

SWOLLEN BREASTS SIGNAL SEXUAL AVAILABILITY

Permanently enlarged breasts do not serve an adaptive or reproductive function, except as an obvious sexual advertisement. For example, although they are already swollen, the nipples of the human female will grow and stiffen, and the breasts will expand by almost a third when she becomes sexually aroused (Masters and Johnson, 1966) thus signaling her sexual interest. Moreover, her face and nipples may turn red.



Nevertheless, human females not uncommonly artificially exaggerate the size of the breasts so as to emphasize her possible sexual availability and to attract male sex partners. For example, although uncomfortable, cleavage enhancement bras account for up to 40% of bra sales (Forbes, 2010).

Permanently enlarged breasts are not at all adaptive, that is, other than as a sexual signal (e.g., Mayr, 1972; Zahavi, 1975). Permanently enlarged breasts are a source of injury and disease, especially breast cancer, and can induce pain when a woman engages in prolonged running and related physical activity. They also require extra food intake to be maintained.

Not only do enlarged female breasts predispose women to a greater incidence of disease and cancer, but so too do breast implants. It has been conservatively estimated that by 1991 over 2 million women in the United States had breasts implants, and that 100,000 of these women suffered from related diseases and injury, and that an additional 5% were at risk for developing serious adverse health effects (Kessler et al., 1993). In fact, Dow-Corning, Bristol-Myers Squibb and Baxter Healthcare agreed to pay a 3.7 billion dollar settlement to the over 100,000 women who claim to have suffered side effects. Nevertheless, despite the risks, millions of women continue to obtain breast implants, and most women refuse to have their breast implants removed even when they stiffen, become hard, and uncomfortable (Kessler, et al., 1993). Indeed, it has been estimated that an additional 4 million women have had breast implants between 1991 and 1997, and many of these women immediately employed these artificially enlarged breasts to attract sex partners (e.g., Cook et al., 1997). In January of 2011, the FDE announced that since 2000, the number of women with breast implants has increased to 10 million.



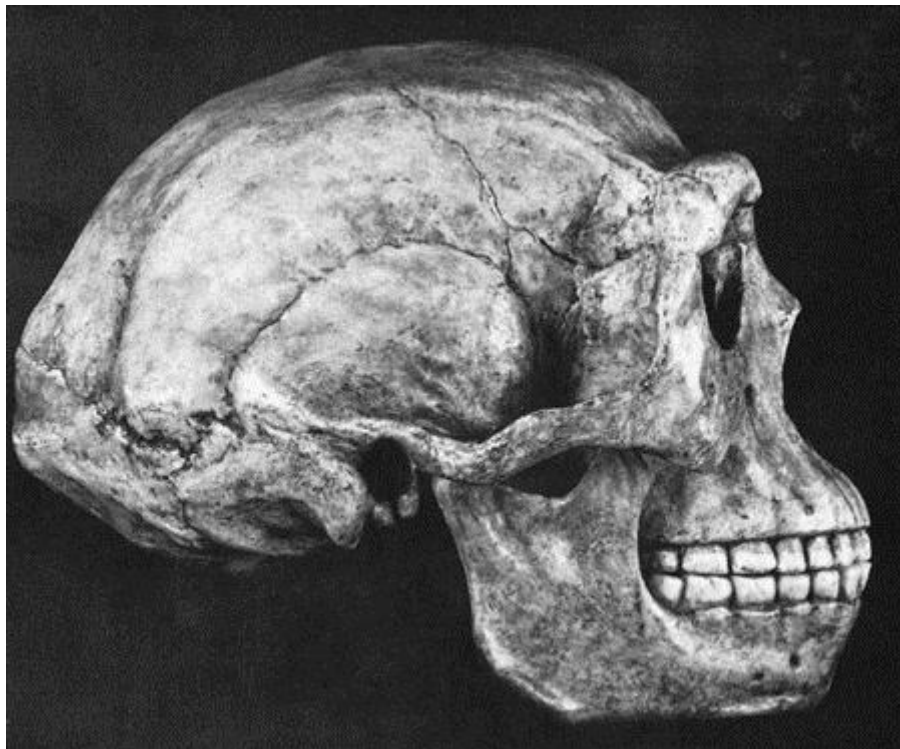
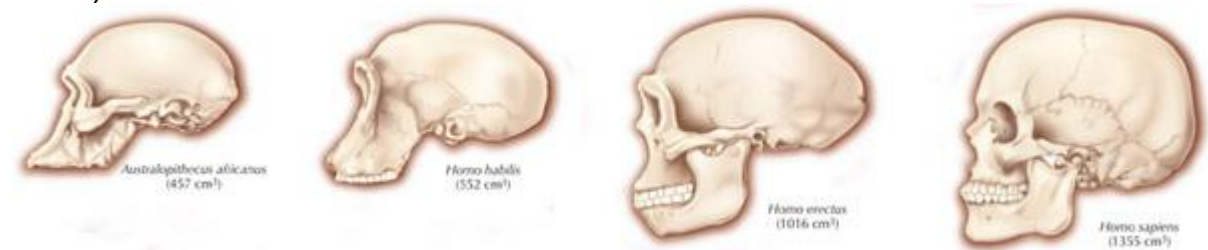
That these breast enhancers are employed to advertise sexual availability is exemplified by one recent study in which women with breast implants admitted to having on average 14 different male sex partners (versus an average of 4 for other women) and to have a greater incidence of terminated pregnancies (Cook et al., 1997). Moreover, those with breast implants are significantly more likely to die and color their hair (Cook et al., 1997) thus mimicking the changes in coloration associated with an estrus primate.

As a permanently enlarged breast serves no adaptive function other than serving as a sexual signal, it can be concluded that over the course of human evolution the female breast increased in size so as to signal her continual

sexual availability. It can also be assumed that the breasts did not significantly increase in size until she completely lost her estrus and became continually sexually receptive. Again, presumably this great change in her sexuality also coincided with the establishment of the home base and semipermanent shelters; that is, around 700,000 to 500,000 B.P.

THE EVOLUTION OF THE FEMALE BUTTOCKS

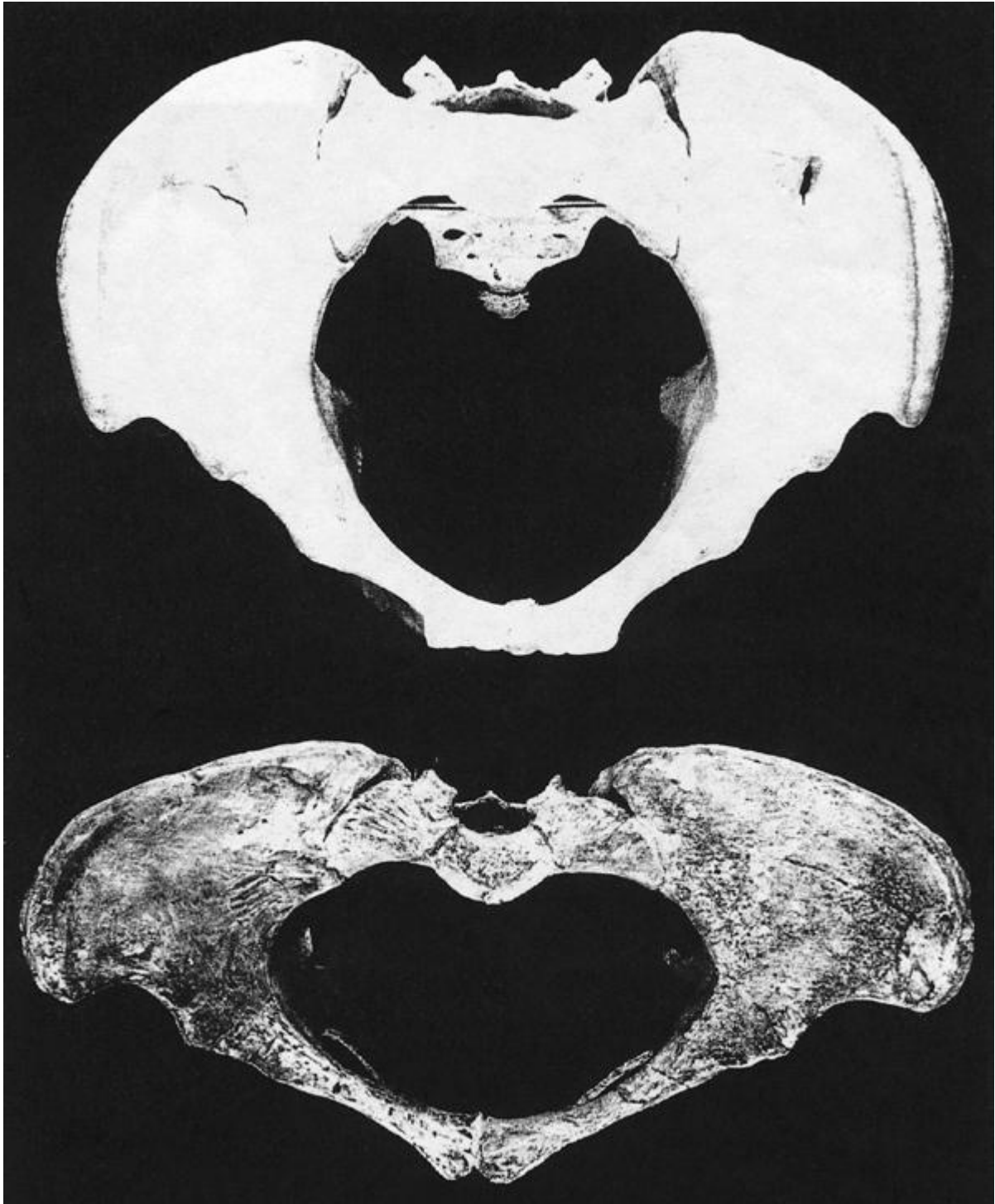
It was during the latter stages of *H. erectus* evolution that the brain became significantly enlarged, doubling in size as compared to *Australopithecus* (375-440 cc vs 937-1,100 cc), and approaching within 15% of present-day humans (Conroy 1998; Luca 2010; Potts, 1996; Rightmire, 1993; Tobias, 1971).



Because a bigger brain comes in a bigger head, this required a larger birth canal and an increase in the sexual physical differentiation in the size and width of the *H. erectus* (and modern) female pelvis so as to accommodate the birth of a big brained baby (Day, 1996; Joseph 2000a,b; Potts, 1996; Rightmire, 1993).



Adult brain of Australopithecus vs H. Sapiens

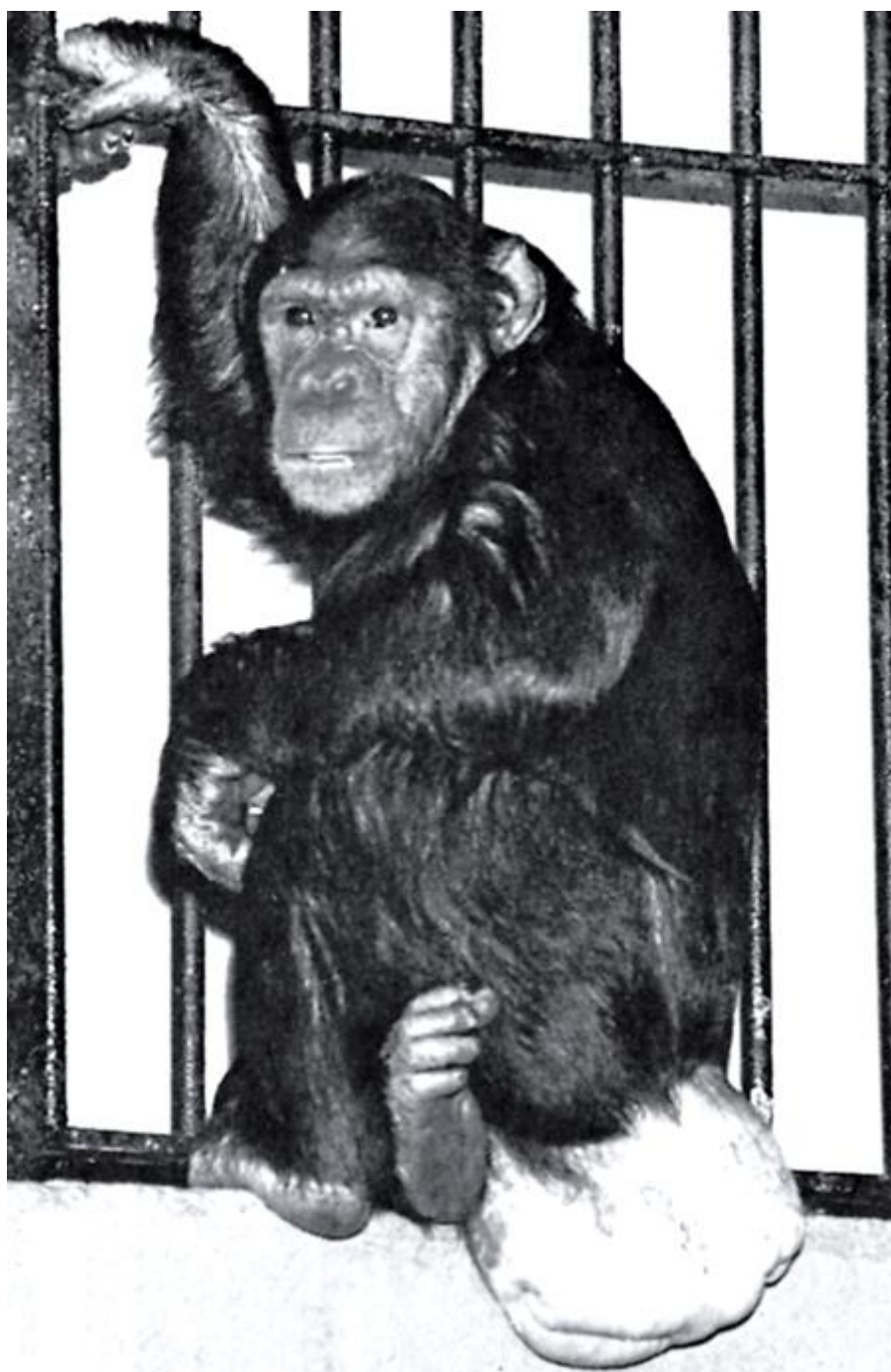


Comparison of the pelvis and birth canal of an Australopithecus female "Lucy," and a modern human female. Reprinted Courtesy of Lovejoy. The birth of a baby.



Specifically, with the evolution of a bigger brain and with the transition from *Australopithecus* to *H. habilis* to *H. erectus*, the pelvic opening became longer and more round and ovoid as it expanded from front to back (Day, 1982, Lovejoy, 1988; Sigmon, 1982). As with modern woman, this adaptation likely forced the female *erectus*' upper legs wider apart and her knees closer together, thus altering her gait and balance, causing her to sway and wiggle her derriere when walking.

Among other female primates and mammals, the buttocks and dorsally oriented genitalia, are employed to assuage aggression, to indicate submission, and as a sign of sexual receptivity when she enters estrus. As noted, among many species of female primate, the dorsally oriented genitals/ vaginal lips turn pink or a bright crimson and balloons outward during estrus, and in fact becomes so huge and distended females have difficulty sitting down.





An estrus female chimpanzee (Left). Paleolithic carving of female buttocks (Right)



Moreover, estrus chimps and other primates, including baboons and the gorilla, go to great lengths to focus male attention on their buttocks, which they may flaunt and display by swaying them "enticingly" (Fedigan, 1992; Ford & Beach, 1951; Goodall, 1990, 1996, 2010; MacKinnon, 1979; Nadler, 1976; Wickler, 1973; Wallis, 1992). If a desired male fails to respond, she may approach him by walking backward, and may sway her swollen derriere in his face, at which point she may run away only to repeat her performance

if he still does not react (Ford & Beach, 1951; Nadler, 1976; Schaller, 2000, 2010).









For example, when a female chimpanzee, baboon, or gorilla goes into estrus her genitals swell, she gives off a strong sex smell, and she will solicit males by presenting and shaking her swollen bottom while looking "coyly" over her shoulder (Carpenter, 1942; Fedigan, 1992; Schaller, 2000, 2010; Wallis 1992). Or she may approach the recumbent male by walking backwards and will stare at him over her shoulder, puckering her lips "invitingly" while tipping her buttocks in the standard dorsal-ventral mating posture. If he doesn't respond she will rub her genitals against him or will stare at or touch his penis, or may sit on his lap and tease and motivate him to copulate.



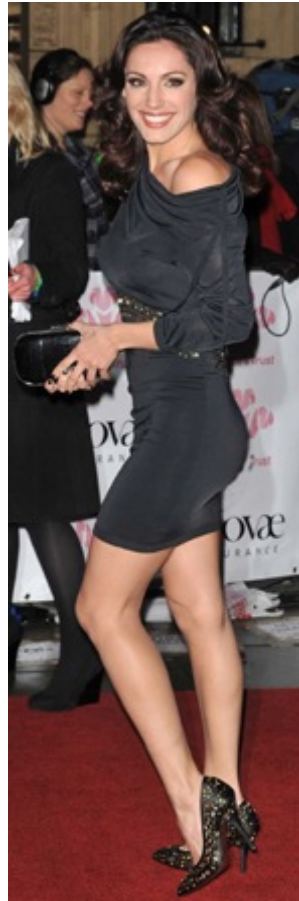


Not just female primates but other mammals, including dogs, wolves, porcupines, pigs, and cows will offer the male a view of her rump, and may back into him and shove her genitals in his face (Beach, 1965; Ford & Beach, 1951; Wickler, 1973).

Thus it is evident that the female genitalia and a derriere that is swollen or emphasized are obvious sexual signals which are employed to solicit male sexual attention. Hence, modern human females (young women in particular), being continuously sexually receptive, accentuate and call attention to the derriere by wearing tight pants or skirts and high heels which emphasize the buttocks by puffing it out. When attired in this fashion she is assuming a sexually receptive posture and continually advertising her sexual availability.







Initially, however, the buttocks of early hominids may have been employed primarily to signal appeasement and submission, and may or may not have been perceived as a sexual stimulant per se unless she was in estrus in which case the genitals puffed out and turned pink or red as is customary among chimps and other primates. That is early hominid females probably did not sport an enlarged buttocks except when she entered estrus. In fact, the pelvis and hips of *Australopithecus* / *H. habilis* appear to have been similar in size to that of the males, as the brain was not yet sufficiently enlarged so as to require a bigger pelvic birth canal. Hence, except when they were in estrus, the buttocks may not have signified sexuality per se due to their smaller size and due to a lack of sexual dimorphism.

However, with the evolution of the big brain, the *H. erectus* female evolved a bigger buttocks that was emphasized due to the increase in the size of her pelvis and the orientation of her legs, as well as the evolution of new muscles to accommodate these alterations, all of which puffed out her derriere thus drawing attention to her sexual availability (Joseph, 2000a,b). Her enlarged and prominent derriere, like that of the estrus primate, served as a continual sexual advertisement.







Once the *H. erectus* female had evolved a permanently enlarged buttocks, she may well have used this appendage to appease male aggression and to solicit sexual attention. She may well have swayed her buttocks "enticingly" in the face of those males who she wished to arouse, or who possessed resources (e.g. meat, a home base) that she wished to obtain-- as is the case with non-human primates and modern females.

Again, this sexual heritage and the sexual potency of the derriere, coupled with her continuous sexual receptivity, explains why modern women accentuate the buttocks through high heels and tight clothes, and in previous centuries, via the bustle, hoop skirts and dresses designed to grossly exaggerate the width of the hips and accentuate the buttocks (Joseph, 2000a,b; Wickler 1973). Through her manner of dress modern woman is emphasizing her buttocks and thus her sexual availability and is attempting to provoke male sexual arousal.





Admittedly, we are forced to speculate as to the timing of these sexual changes. However, since the brain and pelvis significantly increased in size and the first home bases began to appear around 700,000 to 500,000 years ago, and as (temporary) home base formation in chimps is associated with female sexual receptivity, it can be assumed these changes and events

coincided with the evolution of full time female sexual receptivity. Her new sexual status was in turn signaled and advertised through the development of swollen breasts and enlarged buttocks, the breasts a mirror image of the "estrus buttocks", and both of which could be viewed when the upright, bipedal female was walking toward or away from the male (Joseph 2000a,b).



Continual sexual receptivity, and her enlarged buttocks and breasts motivated at least some males to form long-term sexual relationships, provide for her and her offspring in return for sex, and to live with her at a permanent home base where she could cook his meals and the meat he brought home.

MONOGAMY, FACE TO FACE MATINGS, AND VAGINAL REORIENTATION

It is possible that once Australopithecus had acquired the ability to walk upright the vaginal canal began to shift from a dorsal to ventral orientation. It was probably during the evolution of the big brained H. erectus, that the vaginal canal completed its reorientation and became ventrally situated. The reorientation of the vagina would have enabled males and females to easily face one another during sexual intercourse, which in turn would have promoted not only interpersonal intimacy, but the establishment of the pair bond.



A naked, swollen -breasted Yakshimi (tree goddess). With her swollen breasts, wide hips, slim waist and shaved vagina, she is the ideal estrus female. From Mathura, 2nd century India.

For example, this vaginal transformation would have served to maximize her pleasure, which she might then associate with a particular man. With face to face mating the male pelvic area is rubbed against her clitori. With the exception of the Bonobo who are more variable, all other primates and non-human animals generally assume a dorsal ventral posture when mating (Eibl-Eibesfeldt, 2007; Ford & Beach, 1951; de Waal, 2007; Goodall, 1990, 1996, 2010; Schaller, 2000, 2010; Wickler, 1973); which is not to imply that primates do not experiment with different sexual positions. In fact, female chimpanzees, gorillas, baboons, and rhesus macaques, sometimes solicit face-to-face matings, or will twist and turn in order to look at and even kiss the male who is mounting her (Carpenter, 1942, 1964; Fedigan, 1992;

Schaller, 2000, 2010). Hence, it is likely that long before face-to-face matings became the norm, that a trend in this direction had already developed among female hominoids and probably early hominids.

As is evident over the course of early development, face-to-face and eye-to-eye contact is exceedingly important in the establishment of the mother-infant bond (Joseph, 1992a,b, 1999, 2000a). Hence, as face-to-face interactions promote long term emotional attachments, it can be assumed that the vaginal reorientation and face to face matings contributed to emotional intimacy and attachment, and thus the development of long term pair bonds. Although a few other species mate for life, and/or limit their seasonal breeding to one mate, with the exception of gibbons, and some New World monkeys, most primates and mammals, and 99% of birds do not form long term monogamous relations (Kleiman, 1977; Stacey, 1982; Wickler, 1973; Wolf, 1975), and they generally mate from the dorsal ventral position.

Hence, it appears that these sexual changes, including face-to-face matings, may have contributed to the formation of emotional attachments, which in turn made it less likely that the female would immediately seek sex with others, all of which contributed to the development of monogamy (or at least serial monogamy). That is, face-to-face matings made it less likely that she would behave in a highly promiscuous fashion particularly in that the human female is more responsive to the human face, and is more adept at correctly perceiving and responding to facial emotional displays (Burton & Levy, 1989; Levy & Heller, 1992). She is also more likely to form long-term emotional attachments such as with her infants and family members.

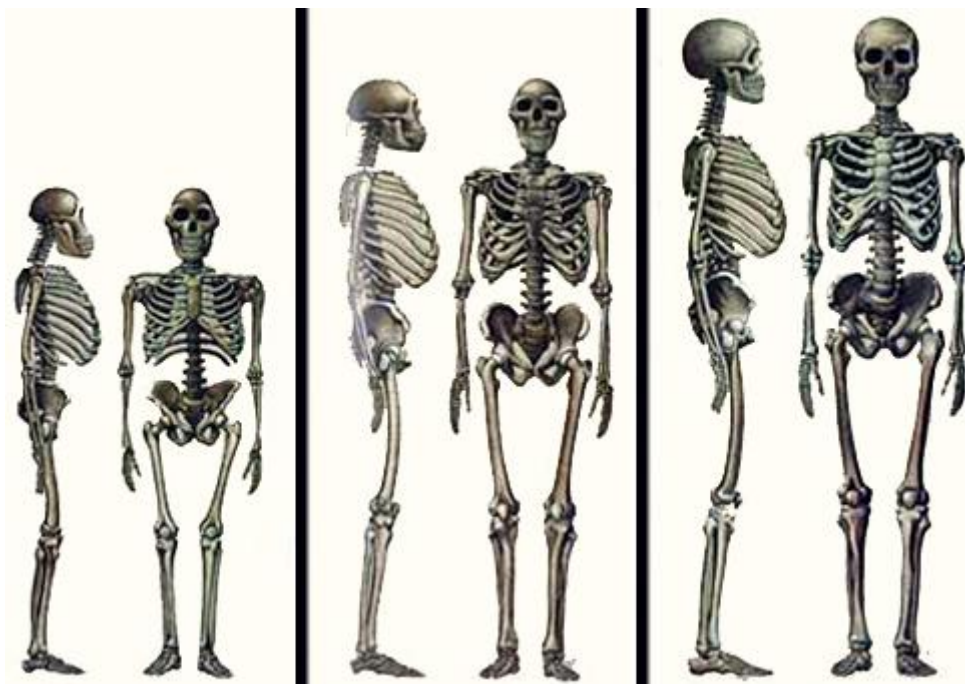
Moreover, once she had become continually receptive, and continually advertised this fact, this may have motivated at least some *H. erectus* males to form long term mating relationships and to establish a personal home base, which in turn gave rise to the first "nuclear families." That is, now that he was given access to a continuously receptive female and as his interest was maintained so long as she was sexually receptive, the honeymoon became a semi-permanent relationship as is evident from the establishment of the permanent home base around 500,000 years ago.

THE BIG BRAIN: Sexual, Social, Intellectual, Physical, and Brain Evolution

It was around 500,000 B.P. the first hearth equipped home bases were established in China, France, Hungary and elsewhere (Clark & Harris 1985; Rightmire, 1990; Zhang, 1985). These latter developments implies that at least some groups of *H. erectus* may have established a rudimentary home life. For example, a home base equipped with a hearth indicates that these hunters and gatherers were returning home with food that was to be cooked and prepared as a group meal.

This great change in diet and food preparation is also evident from an examination of those evolutionary changes which occurred in the teeth, and facial and jaw muscles (Howell, 1997; Potts, 1996; Rightmire, 1990). Food that is cooked is easily chewed and digested and is thus more nutritious. In consequence, large teeth, massive canines, and huge jaw muscles became reduced in size. Improved nutrition and reduction in the size of the lower skull allowed for the brain and upper cranium to increase in size and to evolve new capabilities.

For example, when the need for massive jaw muscles was no longer adaptive and became reduced in size, the inner skull was able to expand as there was reduced pressure for the outer skull to accommodate bulging jaw muscles. As the size of the inner skull expanded, and due also to the increased capacity to digest protein secondary to cooking (as well as other factors related to gathering and tool making), the brain also expanded. The expansion and evolution of the brain coupled with the reduction in the jaw and improved protein digestion, in turn coincided with and promoted the emergence of increasingly complex hominids, including the first archaic *H. sapiens*, some 500,000 years ago.



Australopithecus, *H. erectus*, *H. sapiens* (modified from Roger Hane).



H. erectus Skull



Brain of Australopithecus, H. erectus. H. sapiens

Therefore, full time female sexual receptivity not only promoted the development of the nuclear family, but physical and neurological evolution. Moreover, because some human males had access to a continuously sexually receptive female who was not only providing him with sex, but a home cooked meal, and coupled with female sexual choice, males were also becoming increasingly "domesticated." And as males became more domesticated, and as the brain increased in size, social life and intellectual functioning became more complex as well.

FEMALE SEXUAL CHOICE AND MALE EVOLUTION

These physical, neurological, intellectual and ensuing social changes may have also been a function of female choice and her tendency to selectively mate with certain types of males. That is, as she was probably more likely to form a long-term mating relationship with a male who could be more easily domesticated, and who also demonstrated intelligence and good social skills, she would have produced male children with similar qualities.

Although promiscuous, female primates are not necessarily indiscriminate. They also display certain preferences in sex partners (Dixson 2003; Fedigan, 1992; Small, 1989; Smuts, 1987; Tutin, 1975; Yerkes, 1933). They will in fact refuse to mate with certain males by lowering their hindquarters or attaching themselves to a more dominant male (Lancaster, 1978; Smuts, 1987; Taub,

1980; Tutin, 1975). As noted by Lancaster (1978, p. 68) "fieldwork publications are filled with reports of females... refusing copulation attempts by keeping their hindquarters lowered."

Female primates prefer high status males and those who offer them meat or prolonged grooming in exchange of sex (Carpenter, 1942; Stanford, et al., 1994; Yerkes, 1933). Likewise, human females prefer high status males who offer them resources (Buss 2003, Cameron et al. 1977; Harrison & Saeed, 1977; Koestner & Wheeler, 1988). Therefore, as is the case with human and non-human primates, the *H. erectus* female as well as the archaic *H. sapiens* female, at least those of high status, may have been able to exercise some degree of choice in mating partners (e.g. Reynolds, 1991; Small, 1989; Smuts, 1987; Taub, 1980). By exercising sexual choice, female hominids would have also significantly affected the course of human evolution.

Male *Australopithecus* and *H. habilis* may have been almost twice as large as the females. However, the size differential steadily decreased over the course of *H. erectus* evolution. Simultaneously their brains became larger, which made for a more intelligent but less physically imposing sex partner; at least from the perspective of the female *H. erectus*.

It is likely that the decrease in physical size may have been due to sexual selection on the part of continuously receptive females who mated with males who they found more attractive in appearance and more pleasing behaviorally. As female primates tend to avoid dangerous, assaultive, belligerent, domineering, and frightening males (Fedigan, 1992; Herbert, 1968; Michael et al., 1978), and as they also demonstrate sexual preferences, they would have exerted a degree of sexual selection by selectively mating with males who were not as huge or aggressive, and which were less frightening. That is, these females may have avoided the most frightening and assaultive males, and instead formed long term relationships with and allowed themselves to be impregnated by males who were more gentle in appearance and demeanor.

For example, when provided a choice of mating partners (who are caged), primate females avoid releasing large, aggressive and domineering males, but instead select those which are less frightening, and who are more likely to groom, socialize, as well as mate with them (Herbert, 1968; Michael et al., 1978). In fact, among modern human females, there is a definite trend to prefer males whose facial characteristics are more feminine than masculine and which are thus less frightening (Perrett et al., 1998). However, although the modern woman may prefer a more sensitive male as a long term companion, when they ovulate human females also tend to prefer males who are obviously more male and masculine than female in appearance (Buss 2003).

FEMALE CHOICE AND THE MALE PENIS

Just as males may have selectively mated with large breasted females, thus exercising not just sexual choice but sexual selection, such that swollen breasted females became the norm, females may have done likewise in regard to male penis size.

As noted, although promiscuous, female primates are not necessarily indiscriminate as they also display certain preferences in sex partners (Fedigan, 1992; Small, 1989; Smuts, 1987; Tutin, 1975; Yerkes, 1933) including those who offer them resources. It has also been reported that the majority of female chimpanzees seek to have sex most often with those males with the longest penis, and those who make the greatest number of thrusts per copulation, and who copulate for the longest time (Yerkes, 1933). In this regard, since the human male penis has become huge in size; almost three times that of a chimpanzee, male penis size may also have been "selected for" by choosy females. Indeed, like the female chimp, the human female is aroused by the sight of the male penis (Bancroft, 1980; Friday, 1991) and the bigger the penis, the more aroused she becomes.







Thus, over the course of countless generations, males with larger penises were more likely to successfully mate, and thus the human male penis grew significantly in size. For example, whereas the gorilla dwarfs the human male in stature and weight, the erect gorilla penis is 1.25 inches long on average (3 cm), whereas the erect human male penis is 13 cm (5.4 inches) long . However, female gorillas are not promiscuous. The bonobo and chimpanzee penis is 8 cm long but pencil thin and requires a bone and muscle contraction to achieve erection. Thus, it appears that the human male penis male have nearly doubled in size and width since the time of Australopithecus - H. habilis, secondary competitive pressure and female choice promiscuous species. In fact, just as the female breasts became a signal of sexual receptivity when the human female became fully bipedal and stood upright, human females could also judge which males had the largest penis as males were also standing erect.



Therefore, since female primates exercise sexual choice (e.g. Dixon 2003; Reynolds, 1991; Small, 1989; Smuts, 1987; Taub, 1980) over the course of evolution smaller less frightening males with big sex organs and bigger brains became the norm. In fact, given her continual sexual receptivity, and her ability to accentuate her sexuality through cosmetics (Joseph, 2000a) the *H. erectus*/archaic *H. sapiens* female was probable able to attract a whole retinue of suitors and could repeatedly chose among the more intelligent males who were offering her food, grooming, and resources in exchange for sex, while simultaneously denying sex to those who males were frightening, stupid, who sported a small penis, and who she did not find attractive (e.g. Herbert, 1968; Lancaster 1978; Michael et al., 1978; Perrett, et al., 1998; Tutin, 1975). Indeed, as is common among chimpanzees (de Wall, 2007; Goodall, 1986) she may have been able to motivate the males of her choice and those vying for her affections, to protect her from those huge, brutal, violent males who frightened her.

FEMALE CHOICE AND SPERM SELECTION

Given female choice and her tendency to avoid mating with those who were huge and frightening while selectively mating with those who would groom, feed, protect and provision her, and especially those males who were high status and good hunters, over the course of evolution males became smaller,

more sociable, more intelligent, and less likely to dominate large groups of females through violence, terror, and aggression.

Moreover, even if forced to mate with males who were not of her liking, these females may have been able to reject the sperm and avoid becoming pregnant. That is, through sperm selection made possible by control of the vaginal and uterine muscles, the female could determine which male would have the honor of actually impregnating her.

Although this capacity has almost been lost to "modern" women due to the fact that they spend so much of their lives sitting which weakens these muscles, females nevertheless retain the potential to manipulate and reject the sperm that has been sprayed into their body (Baker & Bellis, 1995). This is accomplished through control over uterine contractions which can induce "flow back" and thus sperm ejection, vs "upsuck" which literally causes the sperm to be drawn into the uterus. Thus, although mating with numerous males, the female can exert choice at the level of sperm.

Through selective mating with high status males who were more sociable and more to her liking, those males who were twice her size were gradually replaced by more sociable males with big penises and bigger brains, including those seeking to form (what they believed to be) exclusive sexual relations. Males were becoming domesticated.

THE EVOLUTION OF COSMETICS: FEMALES ARE ATTRACTED TO MALE ORNAMENTATION

The modern human female artificially exaggerates her sexuality through cosmetics, scent, and colorful dress. She does so because they mimic the sexual attributes of her estrus primate cousins and serve to arouse male and female sexual interest. However, among most animal species, it is the males who are the most colorful, who sport the brightest feathers, and the most colorful sex organs. These colorations also arouse and attract females.



Females of many species become maximally colorful when they enter estrus but are otherwise quite plain and drab in appearance. By contrast, the males of many species display coloration and other ornaments throughout the year. Be it fish, bird, antelope, dog, lion, chimpanzee or human, males are naturally more muscular, more "colorful," and possess the thickest coat of hair, or the most striking ornamentation as compared to females in general. Moreover, among the males of many species, including primates the penis and/or scrotum are often colored in a variety of striking hues.

Though it is true that some females may also display colorful ornaments, especially when in estrus, in general females are much less striking in

appearance. Among most species it is the male who is the biggest, the most colorful, and who have the most luxurious and colorful coat of fur or plume of feathers, as well as other sexual ornaments such as scrotal coloration, throat pouches, head crests, and thick capes of shoulder hair; all of which stimulate female sexual interest.

Because females are attracted to these ornaments, and as they are also employed when males threaten or compete with other males for resources and access to females, human males also tend to accentuate these masculine characteristics. Males grow beards, and wear wigs, shoulder pads, lapels, feathers, war paint, and so on. In fact, just as females through sexual selection may have promoted the evolution of more sociable males who have big brains and big penises, these ancient females may have also promoted the evolution of these attention getting masculine ornaments. That is, over the course of evolution, these masculine sexual attributes became exaggerated simply because she is, and was, more likely to mate with and have children by those males displaying these attributes.







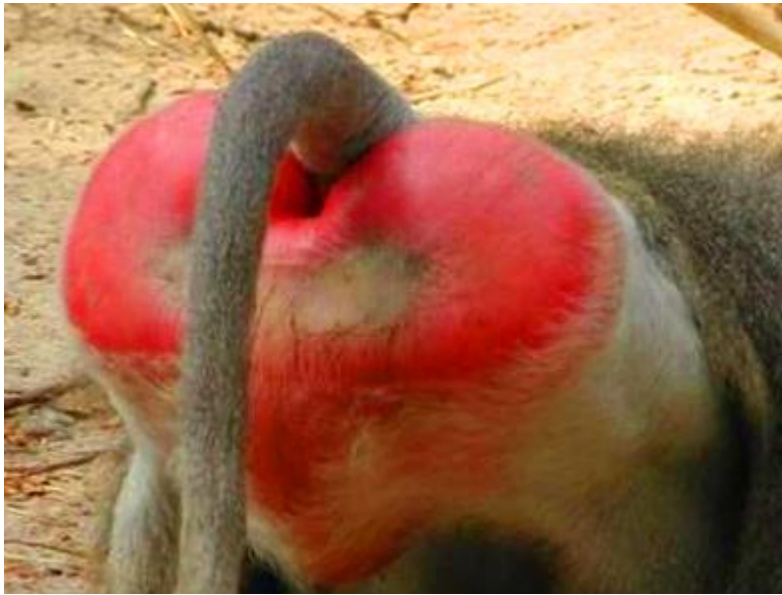
However, because human females are attracted to these colorful male characteristics, she has learned to artificially mimic those attributes she finds most pleasing and sexually exciting.

THE INVENTION OF COSMETICS

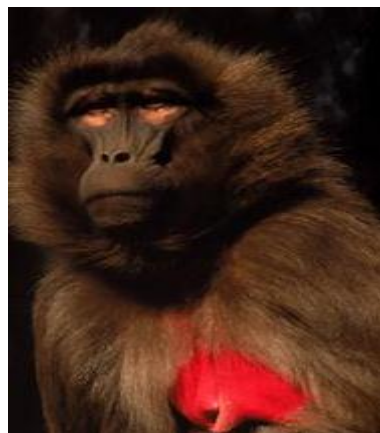


Swollen and naked breasted Nayika as she puts on her makeup and adjusts her hair. The nayika are an idealized heroine of ancient India. Carving from the Temple complex at Khajuraho, Central India. 10th century.

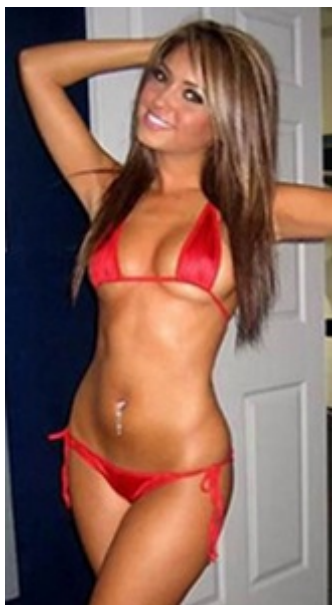
Not just males, but females evolved a big brain. Once human females evolved the intellectual and cognitive capacity to achieve sexual self-consciousness, they began applying natural earth colors and fragrances obtained from a variety of sources to their own bodies so as to mimic those colorful male ornaments which they found most arousing. Moreover, they began using various substances to mimic the signs of estrus in their primate cousins. They invented perfume and cosmetics and adorned themselves with brightly colored materials suggestive of estrus.







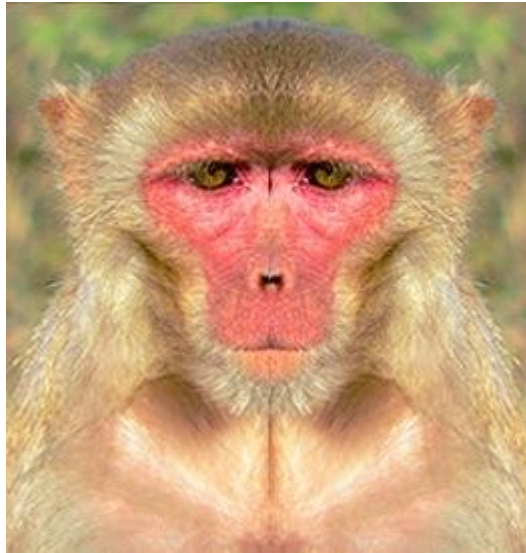
Gelada Baboon (Photo upper left: Michael Kaplan).



The modern woman applies rouge to her cheeks, paints her lips red or pink, wears colorful clothes, and will splash and spray perfumes upon her body that may have been extracted from the sex glands of some other animal. Indeed, human females stereotypically expend a great deal of effort maximizing their sexual allure through perfumes, dress, and cosmetics (Joseph, 1985, 2000b). Yearly, the average young woman or teenage female spends thousands of hours and thousands of dollars experimenting with her cosmetics and lipstick. Consider, Revlon makes 177 different shade of lipstick.

Over 100 billion dollars are spent on cosmetics and an additional 10 billion are spent on perfumes every year (The Economist, 2010). Most of these latter sales involve women buying perfumes for themselves or other women, and one third of these ladies apply perfume five to seven times a week (American Demographics, 2010). Cosmetics are applied almost daily and often several times daily. Human females apply cosmetics to display characteristics associated with primate estrus and to signal her sexual availability.





THE EVOLUTION OF SEXUAL SELF-CONSCIOUSNESS

There can be no doubt that modern humans are capable of self-consciousness. The mirror recognition test also demonstrates self-awareness in chimps and other primates (Marino, 2011; Suddendorf, 2011). Therefore, it can be assumed that *Australopithecus*, *H. habilis*, and *H. erectus* had also achieved some degree of self-consciousness. Instead of mirrors, they may have gazed upon themselves in pools of water. And perhaps the females of these species, like modern human females, spent considerable time admiring and gazing upon their face and body; though of course, this is unknown. However, if this assumption is correct, then it can be predicted that ancestral females may have also made attempts to alter her appearance to make herself more sexually attractive, as is common among modern human females. This would have been accomplished by mimicking the colorful and odorous signs of estrus characteristic of other female primates, and those attributes of males which she finds arousing.



How might this have been accomplished? By placing colorful flowers in their hair? Draping themselves with colorful animal skins or vegetable matter? Rubbing pleasing fragrances upon their body? Using natural earth pigments, such as ocher to paint their faces and sex organs red?

Although it is possible that hominid females may have begun applying scents, colors and odors to their hair, face and bodies soon after they evolved the capacity to stand upright, the only evidence suggestive of these activities appears late in the evolution of *H. erectus* and early in the evolution of Archaic *H. sapiens* (Joseph 2000b). It is this latter time period which may have coincided with the development of full time sexual receptivity and the diminishment of those colorful and odorous attributes formally associated with estrus. However, once ancestral females began purposefully and artificially altering their looks to make themselves more "attractive", it can be assumed they understood what they looked like, had established a self-image, and therefore sought to alter their physical looks to correspond with that body-image, or to project a new image--all of which indicates self-consciousness. By the time archaic humans had evolved, it can be assumed that sexual self-consciousness had become firmly established.

For example, in one site dated to over 300,000 B.P., a wooden bowl and lumps of red ocher, many pointed like pencils, were found (Rightmire, 1990); and redness of the female primate genitalia, face and teats, is an obvious signal of sexual receptivity. Given that there is no evidence that *H. erectus* was using these earth pigments (ocher) for artistic purposes, it can be assumed (or at least strongly suspected) that they were initially employed as cosmetics, so as to emphasize female sexual availability and the signs of estrus and sexual receptivity; for again, these behaviors are exceedingly common among modern human females.





PERFUMES AND SEX PHEROMONES

When female primates enter estrus, they give off a very strong and powerful sexual odor which has a stimulatory effect on males and females. However, in humans the ability to perceive and excrete odors and pheromones has become relatively muted. Human females compensate by splashing perfumes on their bodies, and they do so, not to smell nice, but to smell "sexy" to men.

Females who work around men are more likely to be heavy scent and cosmetics users than those who do not, and single women are heavier users than married women, especially those females in the marriage market (ages 18 to 24) or the remarriage market (ages 45 to 54). Moreover, one of the major reason late teens and women between the ages of 20 and 50 give for purchasing perfumes is to attract men (American Demographics, 2010). Not only is there nothing comparable in the realm of male allurements but 30% of those who use male fragrances are women.

Certain animal odors can affect the human menstrual cycle and in some instances, can cause non-human females to ovulate and to even conceive more easily (Joseph 2001, 2002c. However, among certain groups of mammals, such as mice, the odor of a strange male can act to terminate the pregnancy of the female.

Females living together in apartments or dorms begin to ovulate at the same time and thus demonstrate synchronized menstrual cycles (McClintock, 1971). This effect is not limited to just humans but occurs among dogs, cats, and other social creatures who live in close proximity. Moreover, simply dabbing secretions from the female axillary glands beneath the nostrils of other women can also entrain and synchronize their patterns of ovulation and menstrual cycles (Doty, 1985; McClintock & Stern, 1998), thus making these women physically and sexually maximally receptive and maximally sexually aroused simultaneously. Women who are simply exposed to the sweat of other females on a daily basis for five minutes, will within a few

months begin to cycle at the same time. This effect is not limited to just humans but occurs among dogs, cats, and other social creatures who live in close proximity.

As noted, one third of those who use male colognes are women. Exposing women to male sweat can induce ovulation (Veith et al., 1983) and thus maximal sexual receptivity. Women often buy perfumes for each other, and these odors, and female pheromones can also induce ovulation and sexual arousal. Indeed, not just other species, but human females are effected by the sexual odors and pheromones secreted by other women (McClintock & Stern, 1998) and they sexually and physiologically respond to these odors--in some ways much more so than men.

Some human societies apply fecal matter to their hair. Modern day humans anoint their bodies and homes with a number of colognes and perfumes many of which are derived from the anal sacs of deer, cats, boars and other creatures.

It is the anal origin of so many "pleasant" odors that accounts for the willingness of some animals to frequently sniff and lick one another's "perfumed" bottoms and genital regions, an activity among humans known as felatio and cunnilingus. Humans, monkeys and apes will sniff, lick and suck on the genitals of their prospective mates, and will lick and smell fingers which have been inserted into vaginas. Of course, it is not just for the nice smell, but due, in part, to the almost aphrodisiac sexual effects that such odors and pheromones induce on the limbic system (Joseph 1993, 2003).

Although not always consciously realized, the sexual nature of these chemicals is why many women inundate themselves with a variety of perfumes, the purpose of which is not merely to smell pleasant, but to exude almost narcotic sexual allure so that men are overwhelmed by an "obsession," and so on. Some of the most popular and expensive perfumes have such obvious names: "My Sin," "Tabu," "Decadence," "Opium," "Indiscretion."

One need not cover the body with artificial scents in order to elicit sexual arousal. Natural pheromones exuded by men and women often contain subtle sexual messages including when a woman is most likely to become pregnant (Joseph 1993, 2003). For example, men find the vaginal smells of women more pleasant (or less unpleasant) when females are at that point of their cycle when they are most likely to conceive.

Males too utilize pheromones and body odors, but they serve an almost diametrically opposed purpose. Whereas a female exudes odors which solicit sex, male pheromones often serve as a warning to other males to stay away: this is mine (Joseph 2003). Some male primates rub their urine on the hair of their females, dogs and wolves will mark their territories, and stallions will mark the feces of his mare.

Many primates, particularly those which are nocturnal will urinate on their hands and wipe themselves, their females, their nests, and the paths leading to and from their nests. Because they are nocturnal, they are less dependent on vision and more dependent on older senses such as olfaction.

Pheromones are produced by males and females and do much more than signal sexual status or ownership. In a variety of species, pheromones indicates social status, aggressiveness, fear, threat, alarm, and the need to aggregate or disperse. In fact, pheromones serve the most rudimentary functions of the limbic system, called the four "F's," fighting, fleeing, feeding and fornicating.

SEXY FEMALES ARE SEXUALLY ATTRACTIVE TO MALES AND FEMALES

Because "male-ornaments", scrotal colors, pheromones, and the signs of estrus, stimulate female sexual arousal and make a woman feel "sexy", females may sexually react to similar colorful ornaments (and secretions) when they are displayed by estrus females or human females in general (Joseph, 1977, 1985, 2000b). Females are sexually aroused by estrus females, and human females become sexually aroused by a sexy beautiful woman displaying all the colors and attributes associated with estrus.



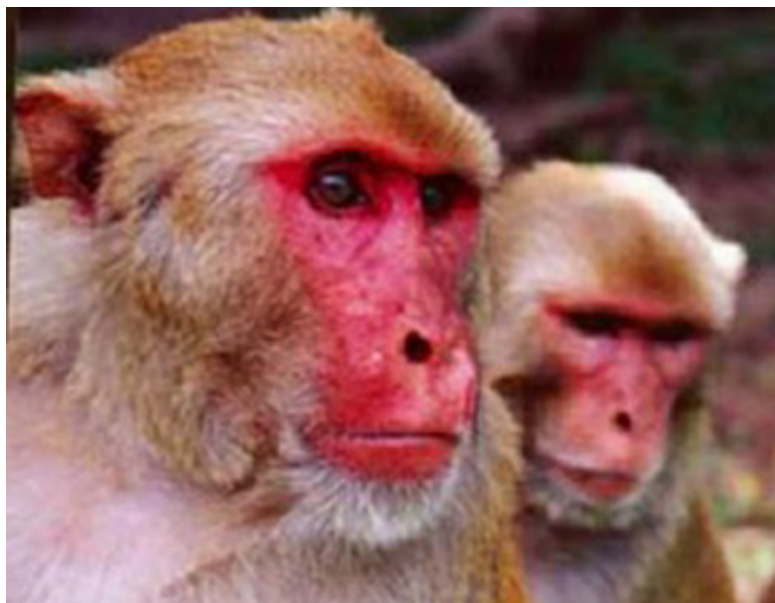
When a female primate displays signs of estrus, non-estrus female primates not uncommonly react to these colorful and odorous sexual signals by touching, grooming, licking, and inserting fingers into the vaginas of these

estrus females. She may even attempt to mount these females and have sex with them (Carpenter, 1942; Chevalier-Skolnikoff, 1974; Fedigan, 1992; Michael et al., 1978). Estrus females become the center of not just male attention, but female attention, and some of these females become exceedingly sexually aroused and also respond to her sexually.



According to Carpenter (1942, p. 137), not only do these females engage in homosexual activity, but "it is not unusual to see several females grooming a receptive female showing marked sexual swelling."

Females may also enter estrus or develop a false estrus in response to an estrus female (Ford & Beach, 1951; Goodall, 1971, 1986, 1996, 2010), thus indicating their own sexual arousal and receptivity by ovulating and becoming sexually receptive. She becomes so excited when in the presence of an estrus female that she also enters estrus--which, however, may also be due to pheromonal synchrony (Joseph 2000b; McClintock, 1971).



If both females are in estrus, they may then take turns mounting each other (Beach, 1968; Chevalier-Skolnikoff, 1974). In fact, "lesbian" sexual activities are not uncommon among many species of estrus mammals such as female mice, rats, pigs, rabbits, sheep, cows, horses, dogs, lions, primates (Beach, 1968; Carpenter, 1942; Chevalier-Skolnikoff, 1974; Ford & Beach, 1951; Michael et al., 1978) and humans. Females are sexually aroused by and will sexually mount other females who are obviously sexually receptive, and this includes modern women who are sexually aroused by the female body; particularly a body which shows the coloration and signs associated with estrus and sexual availability (Joseph 2000b).



Modern woman also reacts to these cosmetic sex-signals with sexual excitement and arousal when they are displayed by other women or men, and when she applies them to herself (Joseph, 1977, 1985, 2000b). It is for these reasons that she also applies these striking colors to her own body; they make her feel "sexy." Moreover, the human female is sexually aroused by the swollen breasts, buttocks, and other signs of estrus including rouge, lipstick, and scent and is thus sexually excited by other "sexy" women.

Moreover, a female may become sexually aroused when she dresses in "sexy" clothes, and applies cosmetics to her own body. She not only looks, but feels "sexy" when she sees herself dressed and painted in this manner. Because females are sexually aroused by the female body (Heiman, 1975; Stauffer & Frost, 1976; Symons, 1979), this may also explain why brightly colored and scantily clad females are frequently employed in advertisements aimed at women. This may also explain why human females dressed so as to emphasize their sexual availability (such as when at a nightclub), frequently report that other young women approach them for sex (Joseph 2000b).



In fact, it has been experimentally demonstrated that females are more likely to respond with interest and arousal, as indicated and measured by pupil dilation and viewing time, when gazing at an attractive woman than when looking at an attractive man (Joseph, 1977). They will also spend significantly more time looking at pictures of attractive females as compared to time spent looking at attractive males. It has been demonstrated that up to 60% of women may become sexually aroused when viewing, hearing about, or reading erotic material depicting or describing the naked female body (Heiman, 1975; Joseph 2000b; Stauffer & Frost, 1976; Symons, 1979).

Among humans and many other species of female, lesbian sexual behavior is also stimulated by the signs and smells of estrus. That is, just as a male is sexually aroused by the signs of estrus, so too are females, including the human female who reacts to colorful ornaments and other attributes of sexuality be they displayed by males or females. Thus, the human female uses cosmetics and adorns herself likewise as it makes her feel sexy. And when she sees other women adorned in a similar fashion, she also feels sexy.



In a review of studies conducted prior to 1950, Ford and Beach (1951) reported that anywhere from 26% to 51% of unmarried women admitted to "intense emotional relations with other women... including mutual masturbation or genital contact." It is common for young females and young women, to fall in love with obviously sexually attractive women.

Most women admit to engaging in these romantic and lesbian sexual behaviors during late adolescence; a time period when females become maximally sexually receptive and increasingly interested in the sexual attributes of other women. In one sample over 90% of females admitted to having "crushes" on other females during their early adolescence (Joseph 2000b). It is because they experience such a considerable degree of lust and love, that longer-term female-female relationships tend to be rather unstable, and why such bitter anger is often experienced when two "girl friends" break up and begin seeing other women.

Homosexual relations between women is a normal pattern of behavior. Not only are females sexually aroused by a sexy woman, but like males, their first intense emotional, loving, and physical relationship is with a woman; their mother. It is thus normal to and for the female to behave in a physically close manner with other women, and in a fashion that is completely distinct from normal heterosexual male-male relationships.

Thus, it is common to observe human women hug, kiss, fondle, groom, and hold one another, and it is not uncommon for them to sleep in the same bed and cuddle. And, it is common for females to become sexually aroused by each other, and to act on that arousal by kissing, fondling, breast sucking, and through mutual masturbation. They may even convince themselves that what they are doing is not sexual.

In fact, as with modern females and hominoid females, it is likely that hominid females, including even the Cro-Magnon, regularly engaged in bisexual relations. This bisexual female tendency may explain why phallic objects little different from the double-dildos that grace modern sex shops, were being fashioned and employed, presumably by female hands, during the Upper Paleolithic.



Paleolithic Gorge d'Enfer double dildo

For example, the Gorge d'Enfer double dildo fashioned during the Upper Paleolithic is obviously designed to be used by two women while having "intercourse" with one another. Likewise, female primates have been observed to masturbate by inserting sticks and other objects into their vaginas, and/or by sticking their hands, fingers, and tongues into the vaginas of other estrus females.

However, although responding with interest and possible sexual arousal, females may also react to a beautiful sexy woman by feeling jealous and sexually threatened (Joseph, 1985). Among social primates it is the estrus female which becomes the center of male as well as female attention and

naturally this can engender feelings of resentment among those females who are being ignored.

COMPETITION BETWEEN WOMEN

"Appearances were enough, for the appearances won her popularity and that was all she wanted. She knew how to smile so that her dimples leaped, how to walk so that her skirts swayed entrancingly, how to look up into a man's face and then drop her eyes and bat her lids rapidly so that she seemed a-tremble with emotion. Scarlet was willing to appear demure, pliable and scatterbrained, if those were the qualities that attracted men. Just why men should be this way, she did not know. She knew even less about the minds of women, for they interested her less. She had never had a girl friend, and she never felt any lack on that account. To her, all women, including her two sisters, were natural enemies in pursuit of the same prey man." - Margaret Mitchell ("Gone with the Wind")

"Women are by nature enemies. The reason no doubt is that the odium figulinum with which men does not go beyond the bounds of the particular guild but with women embraces the whole sex - they are all engaged in the same trade. Even when they simply pass in the street they look at one another like Guelphs and Ghibilines; and when two women exchange compliments it sounds much more ludicrous than when two men do so. The reason for this may be that with women all differences in rank are far more precarious than they are with men, and can be altered or abolished much more quickly, whereas with men a hundred different considerations are involved. Because women are all in the same profession (competitors for the attentions of men), they all stand much closer to one another than men do, and consequently strive to emphasize differences in rank." -Arthur Schopenhauer.

Female primates, including the human female (Joseph, 1985, 2000b), may react to an estrus (or "sexy") female with interest, sexual arousal, or jealousy, as an estrus female generates considerable male (and female) attention, particularly from high status males which come in limited numbers. In part due to jealousy, and perhaps concern regarding resources and their own sexuality, female primates will compete with each other for access to preferred males, and will fight and threaten one another for the privilege of sitting next to and mating with a male of high status (Carpenter, 1942, 1964; Fedigan, 1992). However, a female may become jealous even if a low status male is giving another female attention and is ignoring her.

When estrus chimpanzee females migrate to another group, although they are eagerly welcomed by the males, resident females may attack them (Goodall, 1971, 1986, 1996, 2010). Likewise, the females of many species, including wolves, dogs, and birds (Woolfenden, 1975), actively attempt to prevent other females from mating.

The alpha female in a pack of wolves or dogs will attack other estrus females and will vigorously interfere and may even force the female out of the pack if a male were to show sexual interest (Frame et al., 1979; Mech, 1970).

In fact, dominant females can exert an inhibiting as well as exceedingly stressful influence on other females. An alpha female can create so much stress that estrus and pregnancy are disrupted, and infants are sometimes aborted, and this is true of humans and most social mammals. These and related stresses can lead to reproductive failure (Ellison, 1990; Mech, 1970; Wasser & Isenberg, 1986). Hence, subordinate females are less likely to conceive, and their young are less likely to survive.

Although it is somewhat unusual (but not unheard of) for a human female to assault a sexual competitor, or to sabotage her pregnancy or harm her child, verbal attacks are stereotypical (Joseph, 1985). Women slice and dice with verbal slings and arrows. However, in contrast to males who denigrate the intelligence, athletic ability, business acumen, or sexual orientation of their rivals, females focus on the clothing, makeup, shoes, sexuality, and personality of other women, particularly those who are attractive.

For example, in one study female undergraduate students were presented with a variety of one sentence (written) cues which involved women looking at one another or talking to a member of the opposite sex; e.g., "Carol, an attractive young woman, is looking at Anne (also an attractive woman)." Or "Anne (a very attractive woman) is watching Carol talking to Bob." Subjects were told absolutely nothing about the purpose of the study, were informed that their responses would be anonymous, and were simply asked to write whatever came to mind. They were told that even writing nothing at all would be acceptable (Joseph, 1985). Typical female responses were as follows:

"Jealousy, envy, nosy. She may be thinking that her looks aren't good enough."

"Carol is resentful of Anne, or Carol could really like the outfit Anne has on."

"Carol feels bad because she is not as attractive as Anne."

"Look at her just pouring it on Bob. Sticking her boobs in his face. She's such a jerk! She makes me sick."

"Carol feels a strong tension between them - definitely negative. She knows instinctively that they could never get along."

"As one attractive woman to another, dear, tell me, how do you keep from looking your age? For some reason, I naturally assume that the conversation has "catty" overtones."

By contrast, males who were provided identical cues (but with the genders and names reversed) tended to question the sexual orientation of a man who would stare at another men.

A male may fault another male for looking at another man. Women look at one another to find fault and to make critical comparisons.

Women attach considerable importance to the appearance and physical attractiveness of members of their own sex in a manner that is simply not paralleled in males. Females are exceedingly competitive. When a young woman encounters an attractive female, she will scan her thoroughly and will critically focus on hair, complexion, smile, cosmetics, teeth, and other body parts and decorations (Joseph, 1985). If a physical flaw can't be found conjecture often takes its place. Her rival's personality or sexuality is attacked; i.e. "She's such a bitch," or "She's probably dull in bed."

Consequently, because women are so sexually competitive, and as they may be threatened by other females, particularly those who are sexually attractive, they must spend a considerable amount of time not only attending to the appearance of other women, but their own appearance so as to avoid female criticism and to attract male as well as female attention.

Other women are thus role models, sex symbols, sex partners, as well as potential competitors. And what are they competing for? Resources, security, self-image, breeding success, and access to the most desirable males. In fact, these concerns become manifest even during childhood.

Unlike little boys, young girls engage in play behaviors that center around having babies, a family, and a husband. As they age they increasingly engage in conversations which concern making out, having boyfriends, sex, the clothing of other girls and women, and they increasingly express an inordinate interest in their own physical appearance and attractiveness (Friday, 1985; Gagnon, 1977; Tavris & Wade, 1984).

By their early teens and continuing through young adulthood sexual, fashion, and romantic interests are of paramount concern (Cameron et al, 1977; Dreaux & Hanna, 1984; Koestner & Wheeler, 1988; Joseph, 1985). Increasingly they compete with, belittle, and sometimes feel threatened by other females, particularly those who are attractive or dressed in the latest or sexiest fashions. Consequently, women wear makeup and clothing they consider stylish, not just for the sake of getting a man's attention, but to compete with other women, as well as to satisfy their own innate desire to be exposed to sexually arousing stimuli. And, they know other women are making critical comparisons. Women dress for themselves and for other women as much as they do for men (Joseph, 1985, 2000b).

However, ultimately, women, young women in particular, are in fact competing for preferred sex partners and their resources. Hence, females

flaunt and exaggerate their sexuality and sexual availability in order to attract a wide assortment of men, many of whom are "rewarded" for responding by being provided sexual access to her body.

Competition between women, is also evidence of sexual-self-consciousness. However, just as other primate species, as demonstrated through the mirror test, have achieved self-consciousness, and other primate females exhibit sexual jealousy and compete for male attention, it can also be assumed that sexual-self-consciousness may have begun to evolve millions of years ago, and certainly by 300,000 years ago as it is during this time that females must have evolved swollen breasts, and enlarged buttocks, and may have begun using natural pigments and other substances to exaggerate and emphasize her sexuality and to improve her self-image.

FEMALE PROMISCUITY AND GROUP COHESION

As is characteristic of modern humans (and chimpanzees), *H. erectus*, or archaic *H. sapiens* males would have banded together to protect and guard their villages, their homes, and in particular, their sexually receptive women. And these males would have tried to prevent their females from leaving the troop or village so as to mate with the males of neighboring tribes or communities.

However, no matter how well guarded, many of their women likely continued to engage in clandestine sexual affairs (e.g. Baker et al., 1989) as is common among other female primates and modern humans. Female chimps and other species of primates go to great lengths to circumvent male mate-guarding strategies in order to have sex with the males of other communities (Gagneux et al., 1997). In fact, even if prevented from mating with foreign males, these females would have continued to have had numerous opportunities to have sex with the males of her own troop, even if in a supposed monogamous relationship.

Over the course of human social evolution, and as the number of *H. erectus* or archaic *H. sapiens* males in the tribe increased, so too would her opportunities for having sex with multiple (high status) partners. As in other primates, as the number of females and males in a group increases, the ability to prevent these females from mating with other males declines (Stacey, 1982). In consequence, as bands became tribes, this would have also provided the *H. erectus*/Archaic *H. sapiens* female with increased opportunities to mate with different, albeit high status, males, which in turn would have resulted in the birth of males with similar qualities.

SEXUAL CHOICE, FEMALE KINSHIP & SOCIAL EVOLUTION

When a female enters estrus, males and females are stimulated to band together, the males so as to prevent foreign males from mating with their estrus females, and the females banding together so as to prevent these

estrus females from mating with their males. Female sexuality arouses males and females, and promotes group cohesion.

Continuous sexual availability, coupled with female sexual choice, thus contributes to group cohesion as well as the development of group stability. That is, not only might males form permanent fighting groups to patrol and guard their estrus female containing land, but males who were not as social or friendly and who were not acceptable to the females, may have become isolated and then expelled from the troop.

As noted, sometime a young female chimp may leave her troop in order to have sex with the males of a neighboring troop. Generally she returns home to her mother once her estrus is over. Mothers, daughters, and younger siblings generally form permanent associations, whereas it is a pronounced male tendency to wonder, often completely alone. These mother-daughter associations and those of the extended female-family typically wield tremendous influence over the males of their community, and assist in determining which males become dominant over the others. Male chimps rise in power when supported by the females, whereas some males may in fact be brutalized and expelled from the troop due to the collective actions of certain females.

Over the course of evolution, and again due to female sexual choice, unacceptable and brutal males would have been increasingly removed from the gene pool as these females were selectively breeding with those sociable males who were more to their liking. Moreover, because females selectively mate with males who are high status, and thus successful and (presumably more intelligent), increasingly intelligent offspring were produced, thus leading to increasingly intelligent hominids.

MATRIARCHAL SOCIAL-SEXUAL EVOLUTION

Yet another major factor in the development of group cohesion, increased male sociability, and the elimination of unacceptable males from the breeding pool, is the mother-offspring bond and the development of extended maternal/matriarchal kinship groups involving grandmothers, mothers, daughters, and their young, including sons and male siblings. A group of like-minded females can wield enormous influence and control over the males of the troop, such as by refusing sex or by avoiding males who even dare pal around with unacceptable males. To be accepted and to retain access to these females, males would be forced to modify their behavior or suffer permanent banishment and sexual deprivation.



Many if not most primate societies are structured around female kinship groups. The mother-offspring bond serves as a foundation for social life (Fedigan, 1992; Goodall, 1990 2010; Lancaster, 1976). And, among ancient humans, social life would have centered not only upon the females, but the huts and "homes" that they established. That is, in general, in "primitive" and presumably among ancient humans, the home, hut, tent, or shelter is the possession and the dwelling of the women and children, whereas males tend to sleep wherever they happen to grow tired and are only allowed into these dwellings if they are family or have brought presents.

Females are not only the mistress of the home, but in many ancient cultures and societies she also constructed the home. She not only owns the home, but would rule over her children and her children's children, thus giving rise to a matriarchal dominated society. Indeed, these tribal female-dominated clans would typically be headed by a clan-mother and would be comprised

of a hierarchy of daughters and granddaughters, collectively incarnating that purity of the blood which is the tribe (Briffault, 1931). Thus, the women, including all sexually receptive women, so long as they were kin, would form associations that would last a life time; associations that gave rise to the "tribe" and to village life.

Hence, in order to gain sexual access to estrus females, and upon establishing a relationship with one of these maidens, and given the close ties between mother and daughter, in primitive and ancient cultures, the male would essentially move in with his lover/wife, and her family. He would also have to modify his behavior accordingly.

As summarized by Briffault (1931) regarding 18th and 19th century societies, "among the Eskimo of Labrador, the young man goes to the home of the maiden where as man and wife they dwell together, the son-in-law helping to support the family. Of the Algonkin tribes of Canada, the man joins the woman and her family and she is the mistress and heiress of the home. Among the Crees when a young man marries he resides with his wife's parents. Among the Pawnees the husband took up residence with his wife. In Florida among the Seminole Indians, it is the man and not the woman who leaves father and mother and cleaves to a mate. Among the Ainu of Japan, the women remain in their own home and their husbands join them there. Likewise, in Samoa the husband takes up his abode with his wife."

Known for their utter ferocity, the males of the confederated tribes of the Iroquois were also dominated by matriarchs, and the people would dwell in long-houses which might be sixty to one hundred feet long, being divided into compartments. The interior economy of those clan-dwellings was under the authority of a matron. Sometimes up to 20 families lived together, the women taking husbands from other clans.

"However, no matter how many children, or what goods he might have in the house, he might at any time be ordered to pick up his blanket and move out; and after such orders it would not be healthful for him to disobey; the house would be too hot for him; and unless saved by the intercession of some aunt or grandmother, he must retreat to his own clan" (Briffault, 1931).

In fact, among those ancient cultures and primitive cultures where the woman would be removed from her home in order to live with the man, she would often pack up and run back to her mother and family if he displeased or upset her in some fashion.

Since many or perhaps all ancient human cultures may have also been matriarchal (Briffault, 1931), including those of the Cro-Magnon peoples of the Upper Paleolithic (Joseph, 2000a,c), it is likely that over the course of evolution, similar mother-daughter matriarchal bonds also formed the social glue which held together and thus regulated hominid troop and tribal behavior.

Over the course of social and physical evolution, the further development of multiple extended female kinship associations would have provided its increasing population of females with considerable influence over other troop members including even dominant males who could be ostracized and expelled from the group. Grandmothers, mothers, daughters, sisters, aunts and cousins, and thus the development of multiple female-dominated kinship groups and their female allies, would have also been able to directly as well as indirectly exert profound influences on which males were accepted into the troop, as well as acting to collectively modify male behavior toward females in general.

Female dominated kinship groups, coupled with the evolution of full time female sexuality and female "choice," would have promoted not only social-physical evolution, but the development of tribal village life. That is, as with chimps (Stanford et al., 1994; Wallis, 1992) as the number of sexually receptive females increased, additional males would have vied for acceptance into the group in order to mate with and establish long term sexual relations with one (or several) females.

Once accepted, these males would have been motivated to behave in a manner acceptable to these continuously sexually receptive females, and would have therefore contributed not only to population growth but the stability and cohesion of the group. The alternative was social banishment and sex deprivation. Indeed, it has been argued that permanent social groupings of monkeys, apes, and humans remain permanent because one or more females within the group are always sexually available (Zuckerman, 1932). Female sexuality promotes and maintains group cohesion (Rowell, 1972, Saayman, 1975) and coupled with matriarchal dominated kinship groups, gave rise to the development of society and the "civilization" and domestication of man.

According to Briffault (1931), "the primitive male is a homeless potentate sojourning like the rest of his fellows in the huts erected by their wives. He is welcome in the home only so long as he pleases his wife and the women. If she thinks her husband is not a good worker, or depending on her whims, she can dismiss him and take another husband."

Therefore, it can be assumed that the evolution of full time female sexual receptivity would have exerted a cohesive, and socializing influence on males who were seeking to join or who were already members of the troop. Hence, as ever larger groups of men and sexually receptive women began congregating together, bands of *H. erectus* soon became tribes of up to 100 or more individuals (Clark, 1977) which consisted, presumably of multiple female kinship groups, their consorts, and males seeking mates. In fact, near the end of their rein, 400,000 to 300,000 years ago, *H. erectus* or archaic *H. sapiens*) were building crude shelters and huts of branches and stone, some

of which were large enough to house large extended families consisting of twenty or more people.

"Long houses," that is, those which are designed to accommodate numerous individuals are typically associated with matriarchal societies. It can thus be concluded that not only was Homo erectus and archaic Homo sapien village life dominated by females, but that evolution of the continuously sexually receptive female is the foundation stone which gave rise to the domestication of the male and the development of civilized society.

Conclusions

Sexual self-consciousness is directly related to the evolution of the human female breasts and buttocks and her cognitive and creative ability to mirror the signs of estrus in other primates by applying cosmetics and perfume to her face and body. When human females became continuously able to have sexual intercourse and evolved permanently swollen breasts and buttocks to signal her sexual availability, males were motivated to form long-term attachments and to provide her with meat and protection in exchange for sex. Coupled with the invention of fire these sexual changes contributed to the evolution of a semi-permanent home base and the invention of the first hearths. Food which was cooked could be easily eaten and digested, and this led to a reduction in the size of the jaw and an increase in cranial capacity. This led to the evolution of the big brain, the enlargement of the female pelvis to accommodate the birth of big brain babies, and an increase in the size of her buttocks which also signaled her sexual availability. Full time human female sexual receptivity, female sexual choice, and the big brain, led to the domestication of males, and the creation of the "family." Civilized society and the big brain is thus sexual in origin and is based on human female sexual activity, the evolution of the female breasts and buttocks, and continuous female sexual availability. However, with the big brain and sexual self-consciousness came a new evolutionary innovation: human consciousness.

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