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# The Evolutionary Psychology of Physical Attractiveness: Sexual Selection and Human Morphology

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Psychological evidence suggests that sex differences in morphology have been modified by sexual selection so as to attract mates (intersexual selection) or intimidate rivals (intrasexual selection). Women compete with each other for high quality husbands by advertising reproductive value in terms of the distribution of fat reserves and by exaggerating morphological indicators of youthfulness such as a small nose and small feet and pale, hairless skin. Men's physical appearance tends to communicate social dominance, which has the combined effects of intimidating reproductive rivals and attracting mates. In addition to their attractiveness and intimidatory effects, human secondary sexual characters also provide cues to hormonal status and phenotypic quality consistent with the good genes model of sexual selection (which includes parasite resistance). Low waist-hip ratio is sexually attractive in women and indicates a high estrogen/testosterone ratio (which favors reproductive function). Facial attractiveness provides honest cues to health and mate value. The permanently enlarged female breast appears to have evolved under the influence of both the good genes and the runaway selection mechanisms. The male beard is not obviously related to phenotypic quality and may have evolved through a process of runaway intersexual selection.

**KEY WORDS:** Sexual selection (human); Physical attractiveness; Secondary sexual characters; Gynoid fat distribution; Neotenous female traits; Darwinian esthetics; Parasite resistance; Runaway selection.

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**T**he term sexual selection can be used to refer to the evolution of any trait that enhances mating success either by attracting mates or intimidating rivals (Darwin 1871). Sexually selected morphological traits emerge at sexual maturity under the influence of sex hormones, appropriately timed to influence the process of mate selection (Cronin 1991; Gould and Gould 1989). While the history of this topic is very much tied up with

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explaining exaggerated and ostensibly maladaptive phenotypes, such as the gorgeous but ungainly plumage of male pheasants and peacocks, sexually selected traits do not necessarily impose costs in terms of decreased probability of survival (Buss 1987). For example, the silver back of the adult male gorilla is an advertisement of high social status that not only attracts females and intimidates rival males, but also confers other advantages of status such as access to food (Schaller 1963).

The purpose of this paper is to investigate whether sexual selection of either type can be usefully applied to explain sexually dimorphic facial and bodily traits of human beings. This is done primarily via a review of the physical attractiveness literature in psychology. Although little information is available concerning the reproductive consequences of physically attractive traits, the assumption is made that knowledge of the proximate mechanisms involved helps us to understand the ultimate functions that they were designed to fulfill. In this context, it would appear that the cognitive processing mechanisms that are used to evaluate physical attractiveness of secondary sexual traits constitute cognitive programs that are essentially similar in all individuals, although they may generate somewhat different behavioral outputs in different social environments (see Cosmides and Tooby 1987).

Mate choice poses two related adaptive problems: how to advertise one's value as a mate in terms of morphology, and how to assess the mate value of members of the other sex in terms of their physical appearance. Two major theoretical approaches have been proposed to explain how these adaptive problems have been solved: the runaway selection model and the good genes approach (which incorporates earlier handicapping ideas with parasite resistance, immunocompetence, and developmental stability models of heritable fitness). Evaluation of these alternative approaches will be based on their unique predictions.

## MATE CHOICE AS AN ADAPTIVE PROBLEM

Parental investment was defined by Trivers (1972) with an important economic principle in mind, namely, that because parental effort is finite, investment in one offspring involves withdrawal of investment in others. For females, and for female mammals in particular, investment in one offspring is substantial due to the costs of a larger gamete, placentation, gestation, lactation, and infant care. Greater female investment has two major consequences studied by Bateman (1948) in *Drosophila*. First, having many mates does not increase a female's reproductive success. Second, the number of offspring produced by a female is rather predictable (or exhibits little variance) while male reproductive success varies considerably because it is a function of the number of mates copulated with and some males mate with several females while others fail to mate at all and leave no offspring. The latter finding indicates that there is intense selection pressure for males with respect to frequency of insemination (Daly and Wilson 1983).

Bateman's results imply that the task of mate selection is very different for

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