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Edited by
Jerome H. Barkow
Leda Cosmides
John Tooby

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The Evolution of Sexual Attraction: Evaluative Mechanisms in Women

BRUCE J. ELLIS

> For most sexually reproducing species all conspecifics of the other sex are not equally valuable as mates: that is, they differ in "mate value." In many species selection has produced mechanisms to detect potential mates of high mate value. In other words, just as the taste of fruit varies with food value, in a natural setting, sexual attractiveness varies with mate value.
>
> DONALD SYMONS

What do women find attractive in men? Many writers who have addressed this issue have concluded that female preferences are so diverse and idiosyncratic as to defy systematic explanation. I will argue, however, that general principles guiding female mate preferences can be discerned at the appropriate level of abstraction and that the evolution-based concept of "mate value" (Symons 1987a) provides a useful heuristic in this endeavor.

Men differ in "mate value." In reproductive terms, they are not equally valuable to women as mates (Symons 1987a). Consider, for example, a woman who can choose between two husbands, A and B. Husband A is young, healthy, strong, successful, well liked, respected by his peers, and willing and able to protect and provide for her and her children; Husband B is old, weak, diseased, subordinate to other men, and unwilling and unable to protect and provide for her and her children. If she can raise more viable children with Husband A than Husband B, then his "mate value" can be said to be higher. Over evolutionary time, ancestral females who had psychological mechanisms that caused them to find males of high mate value more sexually attractive than males of low mate value, and acted on this attraction, would have outreproduced females with opposite tastes. This differential reproduction would continue until such mechanisms became universal and species-typical in women.

This logic leads one to expect that a man's sexual attractiveness to women will be a function of traits that were correlated with high mate value in our natural environment: the environment of a Pleistocene hunter-gatherer. Natural selection should have designed evaluative psychological mechanisms (information-processing rules or algorithms) in women that assess such traits and give rise to sexual and romantic attraction in response to them. In this chapter I review the psychological literature on male sexual attractiveness in order to see whether women find traits that would have signaled high mate value in our natural environment attractive in men.

SELECTION PRESSURES

The crucial question is, What traits would have been correlated with high male mate value in our natural environment? Three possible answers are as follows:

1. *The willingness and ability of a man to provide for a woman and her children.* Unlike males from most other mammalian species, who invest little in provisioning mates and offspring, human males can and do provide valuable economic and nutritional assistance to supplement what women can provide for themselves and their children. To the extent that males in the Pleistocene differed in their propensity and ability to provision their mates and children, and to the extent that this variation was signaled by observable cues, selection would have shaped female choice to favor males who displayed such cues.

2. *The willingness and ability of a man to protect a woman and her children.* Because of their smaller stature and lesser strength, women and especially children are potential victims of violence from both humans and nonhuman predators. One valuable kind of assistance males can offer their mates is protection from the negative acts of others, as well as from predation. To the extent that males in the Pleistocene differed in their propensity and ability to protect their mates and their children, and to the extent that this variation was signaled by observable cues, selection would have shaped female choice to favor males who displayed such cues.

3. *The willingness and ability of a man to engage in direct parenting activities such as teaching, nurturing, and providing social support and opportunities.* Many other acts, aside from protection and provisioning, contribute to the well-being of one's children and their eventual success in reproducing. Providing one's children with knowledge and skills, intervening on their behalf in situations of social conflict, and generally shaping conditions in ways that facilitate their health, growth, and success are dimensions of male behavior that would have had a powerful impact on a woman's reproductive success. To the extent that males in the Pleistocene differed in their propensity and ability to nurture their children, and to the extent that this variation was signaled by observable cues, selection would have shaped female choice to favor males who displayed such cues.

STATUS

Status refers to an individual's relative position in a social group; it is a measure of where one stands among one's peers and competitors. Even in hunting and gathering societies, status variations are substantial (Betzig, 1986; Lee, 1979). In general, the higher a male is in status (i.e., the higher the level of esteem and influence accorded to him by others), the greater his ability to control resources across many situations (Stone, 1989). Since control of positional resources is both a sign and a reward of status, natural selection could be expected to have favored evaluative mechanisms in women designed to detect and prefer high-status men. Forming mateships with such men could greatly enhance a woman's survival and reproductive potential through (a) elevation of her own social status, (b) immediate material and nutritional benefits, and (c) long-term access to social and economic resources. Thus, signs of current high sta-

tus or future status-accruing abilities should significantly enhance female perceptions of male attractiveness.

Economic Status

The importance of male status to female perceptions of sexual attractiveness is illustrated by the lives of English tramps as described by George Orwell in *Down and Out in Paris and London.* These men lived a near sexless existence, not by choice, but by virtue of their social position: They were at the very bottom of society and had almost nothing to offer females. That American men who marry in a given year earn about 50% more money than men of the same age who do not is probably due in part to female choice for male resources (Trivers, 1985; p. 331).

Many studies of female mate preferences have focused on the relative importance women place on a man's status versus his physical attractiveness. Ford and Beach (1951), in a cross-cultural survey of sexual patterns in nearly 200 small nonurban societies drawn from the Human Relations Area Files (a collection of ethnographic materials), document dramatic variations in cultural standards of sexual attractiveness, especially along dimensions of body weight and ornamentation. Yet, "one very interesting generalization is that in most societies the physical beauty of the female receives more explicit consideration than does the handsomeness of the male. The attractiveness of a man usually depends predominantly upon his skills and prowess rather than upon his physical appearance" (p. 94). Thirty years later Gregersen (1982) extended and updated their account to include almost 300 societies, mostly from nonurban, non-Western cultures. On this subject, Gregersen's conclusion echoes his predecessors': "One generalization that can be made is that men are usually aroused more than women by physical appearance. This would seem to be true whatever sexual orientation is involved. For women the world over, male attractiveness is bound up with social status, or skills, strength, bravery, prowess, and similar qualities" (p. 186).

Western empirical studies that have investigated the relationship between status, sex, attractiveness, and physical appearance have generally confirmed the conclusions reached by both Gregersen and Ford and Beach. In a content analysis of 800 advertisements in the personals column of a national tabloid, Harrison and Saeed (1977) found that the three qualities women most often sought in men were, in descending order, sincerity (expressing concern about the potential partner's motives), age (wanting someone who was older), and financial security. Women were more than twice as likely as men to seek each one of these qualities, and women placed far more emphasis on each of these traits than on physical attractiveness. Conversely, men were more than three times as likely as women to seek "good looks." Cross-character assortment ("coupling that is based on congruent elevation of different, but similarly valued, characteristics" [Buss & Barnes, 1986; p. 560]) occurred between the stated aspirations of good-looking women and well-to-do men, a common marital pattern in real life as well: Physically attractive women are more able than less attractive women to parlay their assets into marriage with high-status men (Buss, 1987; Udry & Eckland, 1984).

The relative effects of physical attributes and socioeconomic status (SES) on female perceptions of male attractiveness have been investigated by Green, Buchanan, and Heuer (1984) and Townsend and Levy (1990a). Green et al. reviewed the dating choices of new members of a commercial dating service in Washington, DC, the Georgetown Connection. The members read profile sheets on target persons and

decided—on the basis of a photograph, open-ended statements about his or her goals and interests, and demographic information (e.g., age, religion, occupation)—whether or not they wished to date the person. In other words, target persons were separated, through selection, into two categories: "winners" (those who were chosen to be a date) and "losers" (those who were not). For male targets, the strongest predictor of winning was higher status. Higher physical attractiveness was also a significant predictor. For female targets, higher physical attractiveness was the only significant predictor of winning. Joan Hendricks, president of the Georgetown Connection, commented: "Women really read over our profile forms, guys just look at the pictures" ("New Mating Game," 1986).

Various studies of dating behavior indicate that the physical attractiveness of a potential partner is very important to both sexes (Byrne, Ervin, & Lamberth, 1970; Walster, Aronson, Abrahams, & Rottman, 1966), especially in the initial phases of courtship. However, status plays an important role in early courtship as well. Townsend and Levy (1990a) investigated the relative importance of status and physical attractiveness at six levels of romantic involvement, which ranged from having a cup of coffee together to willingness to marry. Photographs of people of high, medium, and low attractiveness were paired with three levels of occupational status and income. College students viewed the different portrayals and indicated their willingness to engage in relationships of varying levels of sexual intimacy and marital potential with the targets. Townsend and Levy found that partner's SES affected women's responses more strongly than men's at all six levels of intimacy and that this sex difference increased as the sexual intimacy or marital potential of the relationship increased. Partner's physical attractiveness also affected women's willingness to enter all six relationships, but high status was able to equalize the acceptability of less physically attractive men. Corroborative results were obtained in a similar experiment by Hickling, Noel, and Yutzler (1979).

The importance of male economic status has also been studied cross-culturally as part of the International Mate Selection Project (IMSP), which investigated mate preferences in 37 cultures spread over six continents and five islands ($N = 9,474$). Subjects rated 18 mate characteristics on desirability. In 36 of the 37 samples, women placed significantly more value on "good financial prospect" than men did, and, overall, females valued "good financial prospect" more highly than "good looks" (Buss, 1989a; Buss et al., 1990).

In summary, cross-cultural ethnographic reports, cross-cultural empirical studies, laboratory studies on mate choice, the analysis of personal advertisements, and an examination of decisions made at a major commercial dating service coalesce on this point: Status and economic achievement are highly relevant barometers of male attractiveness, more so than physical attributes.

Ornamentation

"The study of clothes exhibits in a pure form the pursuit of status," Quentin Bell (1976, p. 17) concludes in his definitive work on the subject. "The mere fact that so purely social a consideration as the class structure of a society can to so great an extent determine our aesthetic feelings must give us pause and make us wonder how our value judgments are arrived at" (p. 185).

That people use clothes to assess class background has been convincingly dem-

onstrated in a variety of field experiments (Molloy, 1975). If evaluative mechanisms in women were designed to detect and prefer signs of high status in men, then style of dress should provide a powerful cue to male attractiveness. Women can be expected to possess adaptive mechanisms that specify a rule such as, "Prefer ornamentation that signals high status in my culture."

Townsend and Levy (1990b) investigated the effects of male status on female willingness to engage in various romantic relationships. Male targets were prerated for physical attractiveness and divided into two categories: handsome and homely. These models, shown in 35 mm slides projected on a screen, wore one of three costumes: a designed blazer with a Rolex watch (high status), a plain white shirt (medium status), or the uniform of a Burger King employee (low status). The high-status models were described as physicians, the medium-status models were described as high school teachers, and the low-status models were described as waiters-in-training. Both undergraduates and law students viewed the slides and stated their willingness to engage in relationships with the different models at six levels of romantic involvement, ranging from casual conversation to dating, sex, and marriage. Townsend found that women were significantly more willing to engage in liaisons with the high-status/homely males than with either the medium- or low-status/handsome males at all six levels of sexual intimacy and marital potential. (In contrast, male subjects always preferred handsome females over homely females, regardless of costume, ascribed occupational status, or type of relationship proposed.)

Hill, Nocks, and Gardner (1987) manipulated physique and status displays by altering clothing tightness and skin exposure on the one hand, and styles of dress representative of different socioeconomic classes on the other. College students rated opposite-sex models in the various physique and status conditions on four different scales of attractiveness: physical, sexual, dating, and marital. In the low-physique condition, which deemphasized body form, women found high-status male dressers more attractive than low-status ones on all four scales. In the more provocative high-physique condition, which revealed more skin and accentuated body form, women found both high-status and low-status male dressers equally unattractive (each received low ratings on all four scales). Overall, high-status dress strongly inflated male attractiveness, whereas a high degree of body exposure markedly deflated it. (In appraising women, men found females in high-physique displays more attractive on the dating, sexual, and physical scales, but less attractive maritally.)

Although the basic result of this study—that high-status cues enhance male attractiveness—is clear, its details are difficult to interpret because of a possible methodological oversight: Hill, Nocks, and Gardner did not test to see whether physique and status displays were independent dimensions. Given that other studies have found that women do value physical attractiveness in men (Byrne, Ervin, & Lamberth, 1970; Walster et al., 1966), the fact the high-physique display almost completely negated the positive effect of the high-status display suggests that tight clothing and skin exposure are cues of low male status for their subject population (American university women). As stated above, style of dress is highly indicative of status; sexual advertising in male attire—even when swathed in designer labels—may connote low class, just as drab gray suits may connote high class and resource control. Unfortunately, this hypothesis cannot be tested using Hill, Nocks, and Gardner's data, because they did not obtain status ratings on high- versus low-physique displays while holding other status cues constant.

Dispositional Characteristics

If women's evaluative mechanisms were designed to detect and prefer characteristics associated with high status, then females should favor males with indicative cognitive abilities and personality traits. Relevant data were collected in a recent study on mate preferences in 6,000 American couples, including heterosexual and homosexual, married and cohabitating pairs (Howard, Blumstein, & Schwartz, 1987). Mate preferences were assessed via a factor-analyzed 14-item list of attributes that respondents rated on a 1-to-9 scale (1 = not at all important, 9 = extremely important). The factor *ambitiousness*—including the individual items "accomplished," "ambitious," "self-sufficient," and "outgoing"—emerged as a major dimension of female preference with a mean value of 6.24. Subsequent investigations of the IMSP have tended to corroborate this finding. The IMSP employed two standardized closed-form questionnaires. Samples were drawn from all parts of the world and represent a tremendous racial, ethnic, political, and religious diversity. As part of this project, Buss et al. (1990) examined mate characteristics suggestive of resource control or likely acquisition. Using a 0-to-3 scale (0 = irrelevant, 3 = indispensable), subjects rated "education and intelligence" and "ambition and industriousness" on importance and/or desirability in choosing a partner. Collapsed across the 37 samples in the international study, female subjects gave these characteristics mean scores of 2.45 and 2.15, respectively. These high ratings suggest that intelligence, the will to succeed, and the tendency to work hard are qualities strongly and universally desired by women.

Willingness to Invest

The female tendency to favor high-status males is only one part of the constellation of evaluative mechanisms expected to underlie mate choice in women. Selection should also have favored mechanisms in females designed to detect and prefer males who were willing to convert status and ability into paternal assistance. Fathers who are nurturant, as well as emotionally and economically supportive of their wives, encourage the development of achievement motivation, intellectual and social competence, psychological adjustment, and sex-typical attitudes and attributes, particularly in sons (Lamb, 1981). All else equal, therefore, women should find men who demonstrate the willingness to devote time and resources to a chosen female and her offspring more attractive than men who do not.

Recent large-scale attempts to identify major dimensions of preference in mate selection both in the United States (Howard, Blumstein, & Schwartz, 1987) and cross-nationally (Buss et al., 1990) indicate that women want someone they like and can depend on. In the study by Howard et al. (described above), the factor *expressiveness*—including the individual items "affectionate," "compassionate," "expresses feelings," and "romantic"—was by far the strongest female preference with a mean value of 7.34 on a 9-point scale. Buss et al. assessed mate preferences via an 18-item list of attributes that respondents rated on a 0-to-3 scale (0 = irrelevant, 3 = indispensable). Collapsed across the 37 samples in the IMSP, female subjects gave the following characteristics the highest ratings: mutual attraction-love (2.87), dependable character (2.69), emotional stability and maturity (2.68), and pleasing disposition (2.52). At least in these questionnaire studies, the most important qualities women sought in their mates were mutual attraction, stability, dependability, compatibility,

and expressiveness. In other words, women seemed to be looking for the kind of men who would make good, willing fathers.

It is frequently observed that women are especially attracted to men they see playing nicely with young children (e.g., Remoff, 1984). This attraction appears to have nothing to do with the desire per se to have children; rather, it is autonomous. The desirability of men who show fondness for children has been documented empirically (Buss & Barnes, 1986), and further investigations are under way.

Structural Powerlessness

Many social scientists (e.g., Coombs & Kenkel, 1966; Hill, Rubin, & Peplau, 1979; Murstein, 1980) have attributed sex differences in the bases of sexual attraction to social conditioning and men's and women's differential access to power: Because women lack power, they seek in men those characteristics associated with power such as status, security, and control of resources. The primary channel for a woman to move upward in society is to marry upward in SES; hence her life chances are largely determined by the job performance of her husband. Since his occupational success depends so much on his skills and personal qualities (such as industriousness and ambition), she must choose him carefully, rigorously assessing his merits and potential. According to this theory, men do not experience the same kinds of structural constraints and, therefore, do not experience the same kinds of needs and desires. Men concern themselves with cosmetic qualities because sex is the main reward males seek in a relationship. Social conditioning, it is posited, maintains and reinforces the whole process, inculcating sex-role-appropriate values from generation to generation. Buss and Barnes (1986; p. 568) call this theory the "structural powerlessness and sex role socialization" hypothesis and note that it does not address "the question of the origins of sex role socialization practices and of the existing economic power structure." Nor does it explain the transcultural nature of sex differences.

The structural powerlessness hypothesis has led various social theorists to make this testable prediction: Women with access to power and wealth will act and fee sexually more like men (much the same as men, in fact) than women who are comparatively powerless and poor (see Dion, 1981; Rosenblatt, 1974; Murstein, 1980). Women, it is predicted, will become less sexually selective and less interested in the socioeconomic status of their mates as their own independence and socioeconomic power increases. (To my knowledge no one has suggested that men will become more selective and more concerned with personality and economic factors as their own status decreases, but this would be another implication of the theory.) In contrast, most evolutionary psychologists would predict that women will prefer high-status mates regardless of whether a female is herself low or high status.

The structural powerlessness hypothesis is directly contradicted by available data. Interview studies of both medical students and leaders in the women's movement reveal that *women's sexual tastes become more, rather than less, discriminatory as their wealth, power, and social status increases.* Fifteen feminist leaders, when asked what traits they sought in a man, recurrently used words that connote high status: "very rich" or "brilliant" or "genius." Lavish dinners, large tips, stunning suits, and so forth were regularly referred to. In short, these high-power women wanted superpowerful men (Fowler, cited in Freedman, 1979). Townsend (1987, 1989), in an investigation of second-year medical students at a northeastern university, found that

female medical students often became "more selective and critical in entering and maintaining sexual relationships than they had been previously. Time spent in a relationship that had no marital potential was seen as time wasted." In contrast, male medical students were convinced that their increasing status would allow them to "seek and enjoy more transitory relationships in the future and such a course would be less damaging to their mental balance and career aspirations than would more involved relationships" (Townsend, 1987, pp. 440–441). For females, increasing SES markedly reduces the pool of acceptable romantic partners for this reason: Women, in medical school as in general, want men who are at least on a par with their own socioeconomic level, regardless of how high that level is (Blumstein & Schwartz, 1983; Goldman, Westoff, & Hammerslough, 1984; Townsend, 1987, 1989; Udry, 1981). These findings concur with those of Buss (1989b, p. 41), who found that "women who make *more* money tend to value monetary and professional status of mates *more* than those who make less money."

The evidence suggests that the female tendency to favor high-status males is not a social construct arising from context-dependent needs or women's lack of power. Rather, it suggests that the female preference for high-status males is the product of a psychological mechanism that operates whether a woman's own SES is high or low.

PHYSICAL DOMINANCE

Dominance is a measure of one individual's ability to prevail over another in competitive encounters that involve a face-to-face physical component, whether implicitly or explicitly. It is a *means* of obtaining a resource that involves imposing or threatening to impose a cost on one's competitor. The higher a male is in dominance (i.e., the greater his ability to displace others through coercion from positions or commodities they both want), the greater his access to a variety of fitness-enhancing resources.

Alexander (1987) suggests that the primary "hostile force of nature" encountered by humans is other humans. In this view of the world, conflicts of interest are pervasive, and the competitive strivings of conspecifics become the most salient feature of our adaptive landscape. A man's ability to traverse this landscape, successfully preventing others from violating his interests, depends substantially on his reputation and ability to maintain a favorable position in dominance hierarchies. Because competition is ubiquitous, and because socially dominant males (by definition) tend to fare best in face-to-face competitive encounters, natural selection can be expected to have designed evaluative mechanisms in women to detect and prefer high-dominance men. Forming mateships with such males could substantially enhance a female's survival and reproductive potential through (a) his ability to retain resources that he has or to expropriate resources from others, (b) protection from conspecifics who might otherwise harm, intimidate, or supplant her and her children, and (c) elevation of her own dominance ranking, which would increase her ability to prevail over others.

Hinde (1978) distinguishes two kinds of dominance: *dyadic* and *group*. The former refers to the pattern of imbalance within a relationship between two people; the latter, to the pattern of rank within a larger group structure. Hinde argues that these two forms of dominance are not necessarily related. This distinction is relevant here in that there is no a priori reason to predict that women will be sexually drawn to men who will dominate them in dyadic relationships. Rather, it is the male's ability to success-

fully negotiate the larger social hierarchy that should be attractive to females. Women pay close attention to how men interact with and are treated by other men (cf. Sadalla, Kenrick, & Vershure, 1987). And the importance of these interactions and the systems of dominance that emerge from them should not be underestimated. As Daly and Wilson (1988, p. 128) point out, "men [become] known by their fellows as 'the sort who can be pushed around' or 'the sort who won't take any shit,' as people whose word means action or people who are full of hot air, as guys whose girlfriends you can chat up with impunity or guys you don't want to mess with."

In summary, evolutionary considerations lead one to expect that women will be sexually attracted to men who display traits that are reliably correlated with social dominance. Bernstein (1980) divides these traits into three categories: (a) physical traits, such as size and physiognomy; (b) social traits such as kinship relationships and political alliances; and (c) individual behavioral traits, such as self-confidence, body language, and aggressiveness. The traits in the first category should constitute less psychologically central mate selection criteria for women than the traits in the second and third categories: While size and strength can contribute to dominance, social standing and body language signal what rank a person has actually achieved within a dominance hierarchy. For example, even a very large man may act submissive if he finds himself among giants, or among the more clever, agile, aggressive, or socially powerful. His behavioral acts (such as patterns of gesturing and deference) will reveal his real position. Nonetheless, insofar as morphological traits were associated with dominance in the Pleistocene, they should still have an impact on female perceptions of male attractiveness today.

Ideally, in an investigation of the effects of dominance on sexual attractiveness, one would look at all major traits in Bernstein's three categories and manipulate them in an experimental setting. High and low self-confidence, high and low physical strength, high and low political connectedness, etc., would each be used as independent variables, and their effect on subjects' ratings of the sexual attractiveness of target stimuli would be measured. Unfortunately, careful studies of this kind have been done on only a small set of traits, all of which fall into the first or third categories. Hence, the following review of dominance and sexual attractiveness will include only these categories.

Individual Behavioral Traits

High-Dominance Personality

The relationship between personality and "leadership," or "managerial effectiveness," has been studied extensively (e.g., Bentz, 1967; Campbell, Dunnette, Lawler, & Weick, 1970; Ghiselli, 1971; Lord, De Vader, & Alliger, 1986; Stodgill 1974), and although the relationship has proven complex and does not easily lend itself to exact interpretation, some clear trends have emerged. A number of U.S. companies have conducted cognitive and personality assessments on their employees, and these assessments have demonstrated reliable covariation between certain personality variables and rated managerial ability. In specific, those individuals who rise to the top of organizations tend to be bright, initiating, self-assured, decisive, masculine, assertive, persuasive, and ambitious (Bentz, 1967; Campbell, Dunnette, Lawler, & Weick, 1970; Ghiselli, 1971; Lord, De Vader, & Alliger, 1986; Stodgill, 1974). As Bentz (p. 118) concludes, "a cluster of psychological characteristics contributes to general executive competence that transcends the boundaries of specialized or non-specialized assignments." This cluster

closely coincides with the description of the dominant personality that emerges from the California Psychological Inventory Dominance scale, which was designed to assess factors of dominance, persistence, leadership ability, and social initiative and has proven to be an effective measure of leadership potential (Gough, 1969; Megargee, 1972). Gough, McClosky, and Meehl (1951, p. 362) describe a high score on this scale:

> A careful reading of the items suggests a number of characterizations of the subjective side of the dominant personality. The factor which is implied by the largest number of items appears to be one of poise and self-assurance. The dominant personality maintains a high level of self-confidence, does not seem to be plagued by self-doubts or equivocations, and therefore appears freer to behave in an unencumbered and straightforward manner. The impression given is one of resoluteness and vigorous optimism. Closely related to this is another suggested factor of resourcefulness and efficiency. The dominant personality appears to move forward in a realistic, task-oriented fashion and manifests feelings of adequacy in meeting whatever obstacles may be encountered.
>
> There is also a certain element of perseverence, or even doggedness, implied. The dominant subjects admit to working on at things even when others become impatient with them, etc., and in general give evidence of strong completion needs.

According to the selectionist model, women should rate men who display these characteristics more favorably on measures of sexual and romantic attractiveness than men who do not.

Preliminary work on the relationship between personality and mate preferences is underway. Most relevant to this discussion are potential correlations between attractiveness and surgency (a major personality factor combining aspects of dominance and extroversion). Surgency has emerged as one of the most common and replicable dimensions in personality taxonomies (e.g., Goldberg, 1981; Norman, 1963; Wiggins, 1979). High scores on surgency are strongly correlated with a wide array of hierarchy negotiation tactics (Kyl-Heku & Buss, n.d.), and, consistent with evolutionary predictions, high scores on this dimension are especially prized by women in potential mates (Botwin & Buss, n.d.). Whereas the extroversion dimension of surgency is equally valued by both sexes in prospective partners, the dominance dimension comprising power and social ascendance is far more valued by women than men (Botwin & Buss, n.d.)

These data fall in line with the findings of Sadalla, Kenrick, and Vershure (1987), who manipulated levels of competitive dominance-seeking behavior in an experiment on dominance and heterosexual attraction. Targets were described as participants in an intermediate tennis class who, despite limited training, were very coordinated players and won 60% of their matches. In the high-dominance condition, the target was described as follows:

> His serve is very strong and his returns are extremely powerful. In addition to his physical abilities, he has the mental qualities that lead to success in tennis. He is extremely competitive, refusing to yield against opponents who have been playing much longer. All of his movements tend to communicate dominance and authority. He tends to psychologically dominate his opponents, forcing them off their games and into mental mistakes.

In the low-dominance condition:

> His serve and his returns are consistent and well placed. Although he plays well, he prefers to play for fun rather than to win. He is not particularly competitive and tends to yield to

> opponents who have been playing tennis much longer. He is easily thrown off his game by opponents who play with great authority. Strong opponents are able to psychologically dominate him, sometimes forcing him off his game. He enjoys the game of tennis but avoids highly competitive situations.

Each sex read and rated descriptions of opposite sex targets. Both males and females in the high-dominance condition were rated significantly higher on the following traits: strong, hard, rugged, tough, cold, intelligent, high income, high status, and masculine. Also, dominant males were rated far higher on sexual attractiveness and dating desirability than nondominant males. (Dominance manipulations had no effects on ratings by males of female targets on these dimensions.) These findings suggest that high-dominance personality descriptions markedly enhance female perceptions of male eligibility.

High-dominance males in the Sadalla, Kenrick, and Vershure study were rated considerably more sexually attractive, but significantly less warm, likable, and tender—qualities that presumably offer cues to a male's willingness to invest in a woman and her children (see Buss, this volume). Does this mean that the very qualities that make up the ability to invest (e.g., high dominance, achievement of status) stand in opposition to qualities that indicate willingness to invest?

The solution to this apparent paradox may lie in the fact that broadly worded descriptors such as "kind" or "dominant" do not capture crucial, context-specific variation in behavior. For example, women may find "generosity" appealing in a man (Remoff, 1984), but presumably a woman wants a man who is generous with her but not with her reproductive competitors. Similarly, she may want a man who is dominant (and therefore less "warm, likable, and tender") when he is in competition with other men, but who is warm, likable, and tender toward her. This could be tested by asking subjects to rate how individuals in the high- and low-dominance conditions are likely to behave in other social contexts.

Body Language

Dominance is signaled in day-to-day life through a variety of nonverbal gestures recognizable cross-culturally. In comparison to high-dominance people, low-dominants smile more often (a gesture of appeasement), are less likely to infringe on another's personal space, and are more likely to look away from the gaze of others, eyes downcast (Maclay & Knipe, 1972; see also Mehrabian, 1969; Weisfeld & Beresford, 1982). Whereas submissives tend to exhibit a drawn-in, slouching posture, dominants tend to have an upright bearing, shoulders straight and head thrown back, and to move with a general ease and freedom of body movements (Maclay & Knipe, 1972), communicating a sense of calm and self-assurance. According to evolutionary predictions, these dominance gestures (when directed at other men) should affect female perceptions of male sexual attractiveness, with high-dominance gestures preferred.

Sadalla, Kenrick, and Vershure (1987) made silent videotapes depicting men and women engaging in either high-dominance or low-dominance behavior. Each actor played a high-dominance role in one tape and a low-dominance role in another. All videotaped interactions took place between two members of the same sex. Sadalla et al. describe the two scenes:

> In the low-dominance condition, a constant male (CM) is shown seated at a desk in an office. An actor enters the room and chooses a chair near the door. . . . The actor, clutching a sheath

of papers, sits in a symmetrical posture, leans slightly forward with head partially bowed, and alternately looks down at the floor and up at the CM. During an ensuing discussion, the actor engages in repetitive head nodding and lets the CM engage in longer communications.

In the high-dominance condition, the actor enters, chooses a chair closer to the CM and sits in a relaxed, asymmetrical posture. The actor's hands and legs are relaxed and his body is leaning slightly backward in the chair. During the discussion, the actor produces higher rates of gesturing and lower rates of head nodding than in the low-dominance condition.

Male subjects viewed female actors, and female subjects viewed male actors. Both men and women in the high-dominance condition were rated by subjects significantly higher on traits such as strong, hard, rugged, tough, and masculine. The participants also judged target persons on sexual attractiveness and dating desirability. High-dominance behavior significantly increased ratings of male targets on both measures. Ratings of female targets were unaffected. These data suggest that female experiences of sexual and romantic attraction are sensitive to nonverbal displays of male dominance and that this sensitivity is characteristic of female sexual psychology but not male sexual psychology.

Physical Traits

Physiognomy

Perceptions of social dominance in humans, as well as in nonhuman animals, are affected by physiognomic traits. In particular, traits associated with physical maturity (proportionately thin lips and eyes, receding hairline) and physical strength (wide face, square jaw [Guthrie, 1970]) are linked to perceptions of social dominance in people (Keating, 1985, 1987; Keating, Mazur, and Segall, 1981). This correlation emerged among a majority of observers in at least 10 of the 11 diverse cultural settings that Keating et al. studied. Consequently, if females find social dominance attractive in men, then women should rate mature male facial features more favorably than immature ones on measures of sexual attractiveness.

Keating (1985) constructed mature and immature facial composites from Identi-Kit materials (typically used by police departments to create facial composites of suspects), manipulating jaw shape and size of lips, eyes, and eyebrows. In all other ways composites were identical. The only factor distinguishing "male" and "female" faces was hairdo. Subjects rated composites on scales for dominance and attractiveness. While mature features similarly boosted the dominance ratings of both male and female composites, a divergence occurred in ratings of attractiveness. Mature male faces were rated considerably more attractive; mature female faces were rated somewhat less attractive. On a scale of 1-to-7 (1 = very unattractive, 7 = very attractive), women gave immature and mature male composites mean ratings of 2.48 and 4.40, respectively. In short, female perceptions of male attractiveness increased in response to morphological enhancements of facial dominance signals.

One would expect, however, there to be some threshold (possibly signaled by gray hair, stressed skin, baldness, etc.) after which "mature" features come to be seen as "old" and diminish in appeal. In our natural environment, male mate value must have decreased in old age when a man's ability to acquire resources and protect his family—or even to live long enough to complete the cycle of investment in a maturing child—weakened.

Height

Height is associated with power and status and in empirical studies has been shown to markedly affect one individual's ability to dominate another (Handwerker & Crosbie, 1982). In an array of situations, male height confers an economic, political, and social advantage (Gillis, 1982). Economically, taller men are more likely to be hired, tend to receive higher starting salaries, and are more likely to get promoted than shorter men. Politically, taller men tend to receive more votes in political elections (the taller candidate won 80% of U.S. presidential elections between 1904 and 1980), and voters tend to overestimate the height of their favored presidential candidate. Socially, people generally overestimate the height of individuals who are high status, whom they like, or whom they agree with. The opposite is true for individuals who are low status, disliked, or disagreed with. (These findings are discussed at length by Gillis [1982].) Most compelling, cross-cultural ethnographic reports suggest that in many parts of the world the ability to achieve positions of power is strongly rooted in relative height (Bernard, 1928; Gregor, 1979; Handwerker & Crosbie, 1982; Werner, 1982). Brown and Chia-yun (n.d.) document that the term "big man" or terms very close to it are found in aboriginal languages throughout much of the world and are used to denote persons of authority or importance. Brown and Chia-yun argue that, in fact, the term is a conflation of physical size and social rank and that "big men" are consistently *big* men, tall in stature.

This array of sociopolitical advantages presumably accrues to tall males because height constitutes a reliable cue to dominance in social interactions. Taller men are perceived as more dominant than shorter men. (For example, shorter policeman are more likely to be assaulted than taller policemen [Gregor, 1979], suggesting that the latter commands more fear and respect from adversaries.) It follows, therefore, that taller males would be preferred by other males as economic and political allies (receiving better jobs, more electoral victories, etc.) and by women as mates. If dominance is an important aspect of male mate value, then tallness should enhance female perceptions of male sexual and romantic attractiveness.

There are important constraining influences on height, however, that do not apply to most of the other traits discussed in this chapter. Whereas it is probably impossible to rank too high in status or dominance hierarchies, it is possible to be too tall. With respect to height and many other anatomical characteristics, natural selection tends to favor the population mean, weeding out the tails of the distribution (Symons, 1979). Ecological constraints probably caused natural selection to penalize very tall men (e.g., more broken bones, higher metabolic costs, poorer balance and agility, awkward gait and body carriage; see, e.g., Haldane, 1985), causing optimal male height to converge on some constrained limit. The hypothesis that males near the midpoint of the population distribution will be the most viable, and thus should be most attractive to females, has been called the "central tendency" hypothesis. In contrast, the hypothesis that females will prefer dominant males, all else equal, predicts that women will prefer men who are somewhat taller than average, although within limits set by optimal size constraints.

Some preliminary data have been collected. Graziano, Brothen, and Berscheid (1978) had short (under 5 ft., 4 in.), medium (5 ft., 4 in. to 5 ft., 6 in.), and tall (over 5 ft., 6 in.) women judge pictures of men who they believed to be short (5 ft., 6 in.),

medium (5 ft., 10 in.), or tall (6 ft., 3 in.) on attractiveness and dating desirability. Women of all three height categories rated tall men more positively than short men on both measures; however, the medium-height males were clearly preferred overall. There was no interaction between the height of the evaluator and the height of the stimulus person. This preference for 5 ft., 10 in. males is consistent with the findings of Beigel (1954) and Gillis and Avis (1980), who investigated stated height preferences for ideal mates. Beigel's female sample (average height 5 ft., 3.5 in.) stated a mean preference for males who were taller than themselves by 6.7 in. Gillis and Avis's female sample (height unreported) stated a mean preference for males who were taller than themselves by 6.0 in. From this it can be calculated that both samples (assuming the latter approximates the U.S. population mean of 5 ft., 4 in. for females) preferred males who were about 5 ft., 10 in., on average. Since the population mean in the U.S. is 5 ft., 10 in. for males, these figures fit the central tendency hypothesis better than the dominance hypothesis. However, as suggested by the Graziano et al. data, deviations away from the central tendency are more tolerated by women in the tall than short direction. Cross-cultural testing is needed. In the only ethnographic study I could find on the relationship between height and sexual attractiveness, Gregor (1979) reports that tall males are strongly preferred by females as both lovers and mates among the Mehinaku Indians of central Brazil.

If the central tendency hypothesis is true, then this could have been engineered by a psychological mechanism that specifies a rule such as "Choose a man whose height is such that when you are looking him in the eyes the visual angle subtended is X." This could account for the 6 to 6.7 in. finding, as well as the well-established trend for men and women to mate assortively on height, that is, for short to marry short and tall to marry tall (Gillis & Avis, 1980; McManus & Mascie-Taylor, 1984). (Perhaps angle X is calibrated experientially to reflect the mean difference in height between men and women in the local population.)

The most salient criterion concerning height that women apply to men appears to be the "male-taller norm," which is so prevalent that it has been called the "cardinal principle of date selection" (Berscheid & Walster, 1974). Gillis and Avis (1980) examined height data collected from the bank account applications of 720 couples. Incredibly, in only one case was the woman taller than the man. Sheppard and Strathman (1989) had women view photographs of male-female dyads in which the male was pictured as approximately 5 in. taller than the female, equal in height to the female, or 5 in. shorter than the female. The same dyad was featured in each photograph. On a scale of 1-to-9 (1 = very unattractive, 9 = very attractive), the male target received mean ratings of 6.00 in the male-taller/female-shorter condition, 5.00 in the equal-height condition, and 4.10 in the female-taller/male-shorter condition. A study by Lang (1979) may shed light on some of the affective dimensions underlying these rating changes. Lang looked at women's height preferences using both the Thematic Apperception Test (TAT), where subjects are shown a picture and asked to make up a story about it, and a brief questionnaire. For the TAT, subjects were shown drawings of a man and woman of discrepant heights out on the town together. In response to the female-taller/male-shorter picture, all subjects—even those stating adamantly on the questionnaire that the size of a man made no difference to them—invented stories with negative outcomes, depicting the male as "anxious" or "weak." In the male-taller/female-shorter condition, women made up stories with bland or reasonably

optimistic outcomes in which the male was typically described as confident, reassuring, and understanding. For many of the women, avowed attitudes on the questionnaire were quite different from the feelings evidenced in their stories—feelings associated with dominance perceptions of the male partner.

Assuming that (a) female height is normally distributed and (b) mean female height is less than mean male height, then a man who is shorter than his female partner will, on average, be shorter than the population average for men. Thus, the "male-taller norm" is consistent with the central tendency hypothesis. However, the TAT results suggest that dominance considerations do play a role, if only in setting a lower limit on acceptable male height. Furthermore, male height emerges as an important factor in real dating behavior. Taller men are more sought after in women's personal advertisements (Cameron, Oskamp, & Sparks, 1978), receive more responses to their own personal advertisements (Lynn & Shurgot, 1984), and tend to have prettier girlfriends (Feingold, 1982) than do shorter men. In addition, the "male-taller norm" appears to be enforced more strongly by women than by men. While Gillis and Avis (1980) and Beigel (1954) found that females preferred males who were taller by 6 in. and 6.7 in., respectively, the males in both studies sought females who were shorter by only 4.5 in. In sum, the data at this point are too sparse and potentially contradictory to decide between the central tendency and dominance hypotheses.

A MATE CHOICE PARADOX

Two of the mate characteristics examined in the IMSP (Buss et al., 1990) were "good financial prospect" and "favorable social status." Both received fairly low ratings from women (1.76 and 1.46, respectively, on a 0-to-3 scale [0 = irrelevant, 3 = indispensable], collapsed across the 37 samples). In line with this trend, the U.S. sample rated both these attributes quite low. Considering the literature reviewed in this chapter, these results seem contradictory. For instance, it is known that in the United States the men whom women actually choose to marry make 50% more money, on average, than men of the same age whom they do not choose to marry (Trivers, 1985). Along these lines, male medical students report that their increasing socioeconomic status tends to markedly enlarge their pool of available sexual and marital partners (Townsend, 1987). Moreover, in a study of selections made at a major commercial dating service, social status emerged as the single most important criterion women applied to men (Green, Buchanan, & Heuer, 1984).

A similar inconsistency emerges between women's stated preference for dominance per se and actual response to dominance signals. Buss and Barnes (1986) assessed major dimensions of mate choice in American married couples via the Marital Preferences Questionnaire, which consists of 76 adjective-items, which subjects rate on a 5-point scale of desirability. Both women and men rated "dominant" as among the *least* desirable mate characteristics. Yet, as we have seen, most women respond positively to actual dominance traits expressed in videotapes, pictures, or written descriptions, at least when dominance was expressed toward other men.

This discrepancy between avowed preferences on questionnaires, on the one hand, and actual responses in many real-life situations and experimental settings, on the other, may have numerous causes. I will discuss four possibilities.

1. *Conflation of group and dyadic dominance.* Unless a measuring instrument specifically distinguishes between group and dyadic dominance (Hinde, 1978), subjects are likely to conflate these two concepts in their responses. Women may respond so negatively to "dominance" as a mate characteristic because they perceive it as the proclivity of a male to dominate *them.* If dominance were presented in terms of a man's ability to interact confidently and successfully with other males (as it is in some of the experiments described above), then it should receive more favorable reviews.

2. *The social desirability issue.* It is possible that many women are interested in forming relationships with dominant and/or high-status men but are reluctant to admit such motives. American women who marry for money are stigmatized as "gold-diggers," and the words "status" and "dominance" have negative connotations for some people in our society. Some female writers who address the question, "What do women find attractive in men?," cloak the issues of status and dominance in euphemisms that seem designed in part to conceal the real political and socioeconomic basis of much female choice (D. Symons, personal communication, 1987). Thus Flood (1981) and Shanor (1977), for example, suggest that what matters most to women are such things as "Who a man is," "How he fits into the world," "How he handles himself," and "How he responds to other people."

3. *The preference for dominant, high-status men may be real but unconscious.* Recall the discussion of female height preferences and the incongruity between the subjects' stated attitudes and TAT outcomes. Women seemed to be responding to a dominance cue (height), while at the same time insisting that height was not important. It is possible that many women are simply not aware of their inclination to perceive and evaluate status and dominance cues favorably. Perhaps these cues evoke an emotional response in women that affects their feelings of attraction toward a male, without them being consciously aware that their response was activated by these cues. Their response might be automatic and its cause not consciously accessible.

4. *Women's questionnaire responses may be biased by a "threshold effect"* (D. Symons, personal communication, 1987). This point can be illustrated by recounting a short story about three upper-middle-class women going out to lunch together in New York City and complaining that "there are no men!" But there were men all around them: service people in the restaurant. Such working-class males were socially invisible to these upper-middle-class females because they were below the necessary threshold of social and economic status.

What could be occurring, then, is that when women fill out a questionnaire on mate preferences they are thinking only about those males who are above their status threshold and thus within their range of vision. Within that range, status differences may be relatively unimportant (as compared with other qualities such as kindness or honesty, which are consistently rated as highly desirable mate characteristics by women). However, status may still have the huge effect of setting a minimum threshold, and thereby ruling out much of the male population as potential mates for upper-middle-class women. Townsend and Levy (1990b) provide considerable empirical support for this hypothesis. This reasoning implies that in an investigation of mate preferences, researchers should have subjects not only rank the desirability of various characteristics, but also state their minimum criterion for each characteristic and rate what percentage of the population meets their minimum criterion. Kenrick, Sadalla, Groth, and Trost (1990) have begun this project.

MATE PREFERENCES IN AN UNKNOWN CULTURE

Donald Symons (1979, 1987a) has reviewed a great deal of ethnographic and psychological literature on perceptions of sexual attractiveness. In summarizing the male experience of sexual attraction, Symons (1987b) asks his readers to imagine that a heretofore unknown tribal people is suddenly discovered. Drawing on touchstones of his cross-cultural review, Symons lists the characteristics that he predicts will constitute the ideal sexual partner of the average man in this culture. My intention is to take Symons's list full circle and to summarize my own analysis. I predict the average woman in this culture will seek the following characteristics in her ideal mate:

1. He will be dependable, emotionally stable and mature, and kind/considerate toward her.
2. He will be generous. He may communicate a spirit of caring through a willingness to share time and whatever commodities are valued in this culture with the woman in question.
3. He will be ambitious and perceived by the woman in question as clever or intelligent.
4. He will be genuinely interested in the woman in question, and she in him. He may express his interest through displays of concern for her well-being.
5. He will have a strong social presence and be well liked and respected by others. He will possess a strong sense of efficacy, confidence, and self-respect.
6. He will be good with, interested in, and/or show a general fondness for children.
7. He will possess whatever skills, accoutrements, physical features, and economic capabilities happen to be reliably associated with high status in this culture.
8. He will possess the skills, behavioral tendencies, and physical characteristics that enable him to protect the woman in question from physical attack or intimidation and will exhibit signs that he is willing to do so.
9. He will evidence signs of health and vitality, such as firm muscle tone, clear skin, upright posture, and energetic body language. He will be taller than the woman in question, have mature physiognomic features, and display a general ease and freedom of body movements.
10. He will not be a man with whom the woman in question grew up with as a child (see Shepher, 1983).

Predictions 1, 3, 7, and 10 are "safe" in the sense that they are supported by a good deal of ethnographic and psychological data on human mate selection. Predictions 2, 4, 5, 6, 8, and 9 are as yet untested or insufficiently tested (e.g., relevant data have been collected in only one culture), though each is falsifiable. These latter six predictions are essentially derived from my interpretations of human evolutionary theory. Of course alternative evolutionary scenarios could be generated and competing hypotheses proposed and empirically tested against these.

The foregoing predictions are limited by their paucity and generality. The human experience is manifold. Experiences of sexual attraction in the newly discovered culture will undoubtedly encompass preferences and feelings far more varied and elabo-

rate than this limited set of predictions can capture. The Darwinian analysis scarcely illuminates the idiosyncrasies of individuals and cultures. It sheds light on basic desires—motives, drives, proclivities, aspirations—but it cannot predict the broad array of tactics deployed in our attempts to satisfy those desires. In any given culture, empirical studies are needed to identify the behavioral strategies through which desiderata are sought, as well as the proximate mechanisms that fashion those strategies.

Many of the psychological mechanisms underpinning feelings of sexual attraction in this culture will depend on ontogenetic experiences for their expression. The ability to discriminate between high- and low-status individuals and between fathers who are willing to make long-term commitments to offspring and pretenders who are not is a function of experience. Nonetheless, it is the very nature of our psychological structures that allows us to (a) extract relevant information (such as that concerning mate value) from our experiences in the first place and (b) use that information quickly and efficiently to solve adaptive problems (such as whom to feel sexual attraction toward). Our psychological mechanisms—specialized and goal-directed—allow us to learn the right things in the learning situations typically encountered in our evolutionary past. The psychological mechanisms underlying perceptions of sexual attractiveness should be sensitive to environmental cues that correlate with mate value.

In comparison to my forecasts on mate preferences among this newly discovered culture, what might a mainstream social scientist predict? Probably nothing at all. Various social scientists (e.g., Futuyama & Risch, 1984; Hoult, 1984; Simon & Gagnon, 1969) claim that humans inherit only a diffuse biological potential—a generalized sex drive that is predisposed toward nothing and, therefore, *cannot be predicted in advance* (cf. Symons, 1987b). By this reasoning, men and women could just as easily be attracted to tree trunks as other people if they were culturally conditioned to do so, and the distribution of sex differences across cultures should be random. From an adaptive viewpoint, such people could just as easily learn the wrong things as the right ones, and they could be manipulated against their selective interests by others (cf. Barkow, 1989; Cosmides & Tooby, 1987).

The central premise of this chapter—that women will respond preferentially to men displaying traits indicative of high mate value—does not imply that women consciously appraise men through the sharp eye of maternal pragmatism. When a woman experiences feelings of sexual attraction, she is not, at an unconscious level, "plotting" a reproductive strategy designed to maximize the representation of her genes in future generations. Rather, she is probably simply experiencing desire for the man in question; this desire may or may not enhance reproductive success in the milieu where it is experienced. But underlying the nature and intensity of that desire is a complex host of psychological mechanisms, and these mechanisms should have been designed by natural selection to detect and prefer male traits that in our natural environment were reliably associated with (a) the ability and willingness to provide economically, (b) the ability and willingness to protect a woman from physical attack or intimidation, and (c) the ability and willingness to engage in direct parenting activities such as teaching, nurturing, and providing social support and opportunities. Taken together, these preferences form a coherent, integrated system that throughout our evolutionary history presumably had the *effect* of causing women to choose men of high mate value.

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