PSYCHOANALYTIC PSYCHOLOGY

Parental Investment, Sexual Selection, and Evolved Mating Strategies: *Implications for Psychoanalysis*

Daniel Kriegman, Ph.D.

Massachusetts Institute for Psychoanalysis

The author suggests that all major psychoanalytic theories posit a universal, ungendered human mind that is subsequently gendered by developmental experiences. Thus, psychoanalysis has ignored built-in, innate differences between males and females. The concepts of distal versus proximal causes, and parental investment and sexual selection theory, along with some of the evidence for innate sex differences, are presented. An evolutionary understanding of gender is then applied to both psychoanalytic theory and practice. Contrary to postmodern reactions — suggesting that notions of innate factors or universals are essentially tools to enable those in a more powerful position (e.g., therapists) to impose controls and constraints on others — it is shown how a modern evolutionary understanding can actually enhance openness to a fuller range of human experience and possibility.

Let me begin with a provocative claim: Psychoanalytic theories are essentially unisexual with respect to the origins of the human mind. By unisexual, I mean that psychoanalytic theories all

---

Portions of this article are based on material that appeared in *Empirical Perspectives on the Psychoanalytic Unconscious*, edited by R. F. Bornstein and J. M. Masling, 1998, Washington, DC: American Psychological Association.

Correspondence concerning this article should be addressed to Daniel Kriegman, PhD, 20 Dorcar Road, Newton, Massachusetts 02476-3012. Electronic mail may be sent to kriegman@aol.com

posit one universal ungendered human mind that is subsequently gendered by developmental experience; gender is not something that arises from within the mind or body of the individual; there are no clear organismic sources of gender that themselves structure the child's experience. To state the argument briefly, what would psychoanalytic theories predict about gender differentiation if somehow children and their caretakers were prevented from having *any* knowledge of the child's biological sex during development? Virtually the entire range of analytic theories would predict little gender differentiation. In this sense, psychoanalytic theories begin with a unisexual mind that is gendered solely by ontogenetic experience, albeit very different experience for little boys and little girls.[1]

Because the innate structure of mind is assumed to be ungendered, psychoanalytic theories develop experiential narratives for the development of gender identities and gendered behaviors. Although this is in keeping with postmodern trends away from universal and biological givens about human beings toward an understanding of reality that is contextual and culturally (intersubjectively) formed, could Green (1995) be correct in suggesting that analysts want to deny and escape from the recognition of infantile sexuality (H. Levine, 1998)? In any case, what all this means is that in the clinical setting, analysts and patients are left to struggle to understand gender issues almost exclusively in terms of formative experiences, with the implications that all possibilities were equally open. And for some analysts, all possibilities remain open to analytic interpretaion and influence.

I challenge this prevailing view and offer a perspective that necessarily includes, but is not limited to, an exploration of innate, gender-differentiated influences on development. Let me emphasize from the outset: *This understanding need not lead to a reinstitution of narrow definitions of sex roles nor to simplistic "anatomy is destiny" prescriptions.*

---

[1]There are a few exceptions to this. For example, at several points, Freud posits the availability to the child of innate knowledge regarding sexuality. This is necessary because he used a basically experiential theory of sexual development: If gender differences arise because of certain experiences (such as a reaction to the primal scene or a boy's discovery of the possibility of human life without a penis), Freud needed the notion of innate knowledge to explain the gendered development of children brought up without such experiences. However, even with Freud's notion of such innate knowledge — which, while only vaguely developed, referred to knowledge that is presumably available to both sexes — we would not be able to predict any gender differentiation if children and their caretakers had no knowledge of the child's sex.

Rather, an understanding of innate propensities can help us identify and free ourselves from the constraints that individuals and cultural groups impose on themselves and others. In addition, an understanding that aspects of gender may have innate roots in no way precludes the important impact of lived experience.

The Innate: Distal (Ultimate) Causes and Proximal Mechanisms

Evolutionary explanations search for the adaptive value of traits or behavioral dispositions, the ways in which such phenomena enabled a biological organism to successfully reproduce and make viable copies of its genetic material. In looking for adaptive ways in which a trait has functioned, evolutionary explanations do not prescribe specific proximal mechanisms. There are many ways in which a function can be achieved. But a specific behavioral tendency or the capacity to experience a specific affect under certain circumstances — if it was in fact shaped by natural selection — must have provided an adaptive advantage to the individuals who used it.

Central to the application of evolutionary biology to psychoanalytic theories of conscious and unconscious mental functioning is the distinction between *distal* and *proximal* cause. Distal causes, also known as ultimate causes, are those forces (selective pressures) that shaped a pattern of behavior, a motivation, or a mental process (conscious or unconscious) over evolutionary time. For example, people eat because if they did not they would die: Eating behavior is therefore adaptive. However, this is the ultimate cause that is distal in the sense that those forces that shaped this behavior are distant in time from people as individuals. The selective pressure (i.e., only those who ate survived to reproduce and pass on their genes, which included the genetically influenced propensity to eat) operated on our ancestors and their compatriots over phylogenetic history. As a general rule, people are not consciously (or unconsciously) motivated to eat in order to live. As people experience it in ontogenetic, personal time, the proximal mechanism that was shaped by the ultimate cause that now causes eating behavior is hunger (or other forms of the desire or need to eat).

Proximal mechanisms of particular interest to psychoanalysis include all of he affects people experience: rage, love, anxiety, joy, sadness, lust, grief, loneliness, shame, guilt, remorse, compassion, envy, and so on. The ultimate cause that shaped our affects was the selective reinforcement by the environment of those proximal mechanisms (affects) that motivated behaviors that were functional or adaptive (i.e., adaptive in that the

individuals who engaged in them had greater reproductive success). These affective propensities were "chosen" by the differential outcome in reproductive success so that they had a higher frequency in each succeeding generation.

Note that not only do evolutionary explanations not predict specific proximal mechanisms but also they do not even specify how directly an adaptive function will get expressed. For example, in some species of birds, the mating song is innate: Once the egg is formed, subsequent experience with the song is unnecessary for offspring to "sing" the song. In other species, the fetus must be exposed to its mating song at a specific period while still inside the egg to develop the ability. Clearly, the ability to sing the song has biologically innate components in both species. However, for one species, the song is "hardwired" into the brain, whereas in the other, the readiness to learn the song is what is present. Evolutionary theory does not specify how directly genetic influences will lead to behavioral features or to what extent environmental factors influence the outcome.

For psychoanalysis, evolutionary explanations must also make use of emergent factors (Slavin & Kriegman, 1992). When comparing similar behavior in our species to other species, we must be mindful that there may be far more complex intervening variables between biological genetic factors and resulting behavior. For example, the forces that motivate a male pigeon's efforts to be "abusively" aggressive in controlling his partner during mating season are probably quite different from the experience of sexual jealousy often experienced and acted on by a human male. Although the function that an evolutionary explanation identifies (the prevention of cuckoldry) and the outward appearance of the mechanism (attempts to control the female with physical force) may be similar, the way in which the experience is processed by the male pigeon or male human are probably not.[2]

Notwithstanding these caveats, evolutionary explanations may powerfully challenge psychoanalytic conceptions. Keeping in mind that psychoanalysis is concerned with proximal mechanisms in action, an evolutionary understanding may have implications regarding the proximal mechanisms that are likely and how they can or cannot work.

---

[2] Although on this last point, we might find disagreement by some feminists, such as a female patient who quipped, "Why don't women have any brains? Because they don't have a penis to carry them around in."

When Is a Trait Likely to Be Influenced by Innate, Biological Factors?

We can reasonably assume that gender-differentiated features of human behavior have a psychobiological component when (a) the gendered pattern is found in virtually all human cultures; (b) gender differences in the tendency itself, its precursors, or its components are present at birth or shortly afterward; (c) similar tendencies are seen in virtually all mammalian species that have similar ecological — social conditions; (d) the proximal mechanisms that give rise to the behavior are known to be partly biological in other species and these same biological mechanisms are known to operate in humans; (e) carefully documented identical-twinsraised-separately studies demonstrate a significantly higher correlation of such behavior among identical twins. Indeed, when most of these conditions are present, it seems unreasonable to assume that a behavior is not shaped to some degree by innate, biological factors.

The Cinnamon Twins Meet the Clean Twins: Identical Twins Reared Apart

Consider the following Examples:

> [Identical twin] girls where separated in infancy and raised apart by different adoptive parents … When the twins were two and a half years old, the adoptive mother was asked a variety of questions. Everything was fine with Shauna, she indicated, except for her eating habits. “The girl is impossible. Won’t touch anything I give her. No mashed potatoes, no bananas. Nothing without cinnamon. Everything has to have cinnamon on it. I’m really at my wit’s end with her about this. We fight at every meal. She wants cinnamon on everything!”
>
> In the house of the second twin, far away from the first, no eating problem was mentioned at all by the other mother. “Ellen eats well,” She said, adding after a moment: “As a matter of fact, as long as in put cinnamon on her food she’ll eat anything.”…
>
> Identical twin men, now age thirty, were separated at birth and raised in different countries by their respective adoptive parents. Both kept their lives neat — neat to the point of pathology. Their clothes were preened, appointments met precisely on time, hands scrubbed regularly to a raw, red color. When the first was asked why he felt the need to be so clean, his answer was plain.
>
> “My mother. When I was growing up she always kept the house perfectly ordered. She insisted on every little thing returned to its proper place, the clocks — we had dozens of clocks — each set to the same noonday chime. She insisted on this, you see. I learned from her. What else could I do?”
>
> The man’s identical twin, just as much a perfectionist with soap and water, explained his own behavior this way: “The reason is quite simple. I’m reacting to my mother, who was an absolute slob.” (Neubauer & Neubauer, 1990, pp. 22-21)

Perhaps if the Cinnamon Twins entered analysis, one might be told that her unusual fondness for cinnamon was reaction to feeding struggles with her controlling mother, whereas the other might be told that it served a selfobject function by evoking memories of union with her affirming mother. With respect to the Clean Twins, although we may have little knowledge of how a genetic predisposition leads to complex behaviors such as immaculate cleanliness and excessive orderliness, psychoanalytic formulations that disregard the possibility of some biological predisposition are likely to miss an important part of the story. The missing part of the story may then be compensated for by creating a narrative that echoes one of Kipling's *Just So Stories for Little Children*, explaining, for instance, "How the Leopard Got His Spots." Could aspects of our theories of gender formation turn out to be complicated analytic just-so stories to account for what are, to some degree, innate gender differences?

Androgenized Females: Biological Accident as a Real-Life Experiment

Unfortunately for the subjects, a real-life experiment has been done on the formation of gender identity in humans. In this "experiment," because of a biological mishap, female fetuses become exposed in utero to male hormones much as normal male fetuses are. At birth, the genetically female child may have developed a phallic enlargement of the clitoris and a fusion of the labia. Because the child looks male but has female internal sex structures, she may have normal female fertility. In most cases, the child is surgically altered shortly after birth to make her appear female. The abnormal hormonal output is medically controlled, and normal female development ensues.

These cases provide a powerful challenge to exclusively experiential, cultural explanations of gendered behavior. Although the parents of these children show a range in their patterns of child rearing, on average, they tend to provide extra encouragement for female gender role formation. For instance, they tend to provide more dolls, pink dresses, approval of stereotypically female behavior, and disapproval of masculine behavior. Nonetheless, these little girls behave in stereotypically more masculine ways than other little girls. They tend to become tomboys, preferring rough-and-tumble play with boys to playing with dolls and showing little interest in caring for infants or acting out typical adult feminine roles (Ehrhardt, Evers, & Money, 1968; Masters, Johnson, & Kolodny, 1995; Money & Ehrhardt, 1972; Money & Schwartz, 1977).

One can come up with tortured analytic experiential explanations for this outcome. Much as the Ptolemaic system, which claimed that heavenly bodies revolve around the earth, was preserved by introducing complicated

mathematical explanations of extra motions of the planets to account for the fact that the observations did not fit the theory, one can present Ptolemaic psychoanalytic machinations to account for these data. For example, perhaps these girls were resisting attempts to mold their behavior and thus become more male identified. Although this as well as other explanations may contain some truth, the investigators found that regardless of the degree of parental pressure, the results were the same. As in numerous twin studies that demonstrate an uncanny tendency — despite widely differing environments — for identical twins to develop with very similar behavioral predilections and personalities, parental influence may be greatly overrated when it comes to gender formation.

Sex Differences in Infancy and the Bidirectionality of Parent-Child Influence

> At birth, males are heavier and longer … From infancy on boys have a consistently higher basal metabolism … develop proportionately larger hearts and … the male hormone facilitates protein synthesis whereas the female hormones have no such direct action. All these features characterize the male for a more active and strenuous life … In sharp contrast to his physical advantages, however, is the male's developmental retardation: growth … lags nearly 2 years behind the female … The onset of walking and talking … occur[s] earlier in girls than in boys. In terms of maturity the newborn girl is equivalent to a 4-to 6-week-old boy … In general, male newborn infants exhibit more spontaneous motor activity and this consists predominantly of gross movements, whereas the activity of the female infants consists typically of finer movements, largely of the facial area, e.g., mouthing, smiling. (Hutt, 1972, pp. 156-167)

Corinne Hutt went on to list the evidence during infancy for superior visual acuity in males and better auditory discrimination and localization in females; greater interest in visual patterning in males and auditory sequencing in females; greater ease in conditioning males using visual reinforcers and females using auditory stimuli.

> Many studies reporting differences in the way mothers handle their male and female infants, or for that matter, any sex differences in human behavior, tend to account for such differences in terms of the mothers' expectations of a son or a daughter … or else in terms of the reinforcement of sex-appropriate behaviours … The demonstration that considerable differences in the behaviour of male and female exist [within the first] 3 weeks [suggests that] the differential reactions of the mother are very probably contingent upon these behaviors and not contrariwise, as commonly supposed. (Hutt, 1972, pp. 157-158)

Although we may not agree with Hutt's conclusion, we certainly do need to consider the possibility that the influences affecting sexually differentiated

mother-child interactions (and other sexually differentiated social interactions between male and female infants and the environment) are bidirectional, with at least some of these influences emanating from the biology of the child.

Or as Neubauer and Neubauer (1990) put it after reviewing the many studies of identical twins reared apart:

> In the earliest observations of the first few weeks of life the similarities between separated twins reared apart were greater than we expected, and the differences in parenting, though always considerable and sometimes powerful, did not have the effect we imagined we'd find … It appeared that an infant's unique way of engaging the environment and making it respond to his needs — plus the stability of these features throughout life — was influenced by genes and not only created by mother, father, or school … We must … understand that we respond to the environment in ways biased by our innate makeup, and furthermore, that this makeup helps select the environment we respond to. (pp. 6, 8)

Parental Investment, Sexual Selection, and Evolved Mating Strategies

A well-established evolutionary understanding regarding what is called *sexual selection* and its relation to *parental investment* has been developed over the past 35 years. In this view, male and female behavior has been shown to be guided by very different strategies (motivated by different proximal mechanisms) in all sexual species. Darwin saw sexual selection as so powerful and fundamental a force that it was a major focus of one of his two most important works, *The Descent of Man, and Selection in Relation to Sex* (Darwin, 1871). Darwin delineated two forces operating on organic life. The first was selective pressures ensuring physical survival of the organism itself. The second was selective pressure ensuring the organism's reproductive success. Although taken together, they represented selective pressures for overall fitness, they can often be at odds. For example, it is common for males of many species to place themselves at significant risk by fighting one another for access to females.

In a seminal paper, Robert Trivers (1972) outlined some of the selective pressures that appear to lead to sexually differentiated behavioral traits such as risk taking. Trivers showed that although the overall reproductive success of the males and females of a sexually reproducing species must be identical, the variance in reproductive success among individual members of each sex can be extremely different for the two sexes of the same species. For the sex that invests more (usually the females), the limit on reproductive success is generally how many multiples of the investment she can make in breeding season (or in a lifetime). In many species, there is often no clear limit on the number of offspring members of the sex that

invests less (usually the males) can have. If one sex invests considerably more in the offspring, then the limiting factor operating on the other sex will primarily be availability of and reproductive access to the sex that makes the greater investment. Although in most species, it is the female that invests more (often in simply carrying the fetus and contributing nutrients to its growth before birth or by creating the eggs, which are almost always many times larger than sperm), there are species where the male investment is considerably larger, and as Trivers's parental investment theory predicts, the females then tend to be larger, brighter colored (e.g., in birds), and more aggressive as they compete for access to the males. In these species, the males are the limiting sex.

These factors can be seen clearly in the extensively studied red deer (Clutton-Brock, 1985; Trivers, 1985). In these deer, the male contributes his sperm and little else to his offspring. There is usually one male harem master to a group of hinds. The harems can be as large as 10 to 20. The hind must bear and nurse the young, being able to produce only 1 calf each year, whereas one stag in Clutton-Brock's study fathered 10 calves in 1 year. Because the average reproductive success for both sexes must be the same, it is easily shown that the variance among the males must be higher than the variance among the females; for every extremely successful male, there must be several male failures.[3] This is visually illustrated in Figures 1 and 2 (below), which represent female and male reproductive success, respectively, for one season in a hypothetical troop of deer.

Note that there is very little variance among the females (Figure 1); regardless of their behavior, almost all the females will have one calf, and none will have more. Selective pressure for competition among females is relatively weak.[4] For the males (Figure 2), the story is dramatically different. Most will have no offspring. A few will be moderately successful. One or two can be fabulously successful. The variance among the males is quit large, with most being failures. In addition, whereas the mean number of calves per year for hinds goes above 0.5 around age 4 years and stays above that level until age 17, the stag mean does not rise above 0.5 until age

[3] In a sexually reproducing species with a 50/50 sex ratio, the total number of offspring will be divided by the same number, to arrive at the average number of offspring for either a male or a female.

[4] Among females, there may be selective pressure for competition over access to resources (food), territorial position (e.g., at the center of the group where vulnerability to predators is less), and so on. Yet no other factor is nearly as dramatic in determining reproductive success as access (by the other sex) to the sex that makes the greater parental investment in offspring. This is the driving force behind the most dramatic examples of sexual selection. In a moment, I apply this principle to humans.

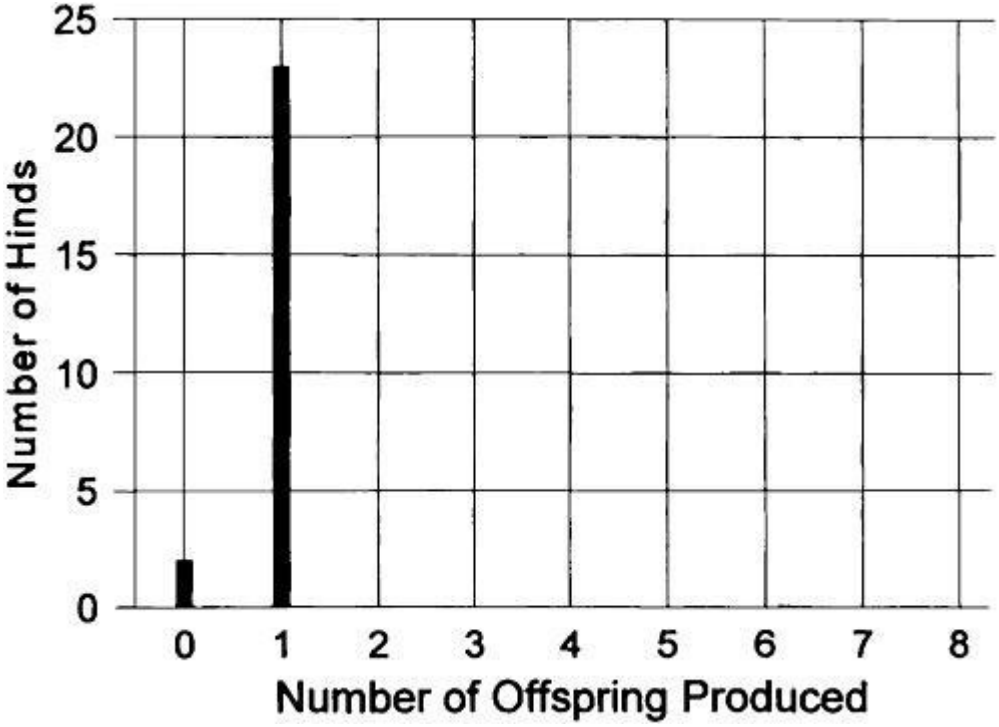

Figure 1. Female red deer reproductive success (n = 25; total offspring = 23).

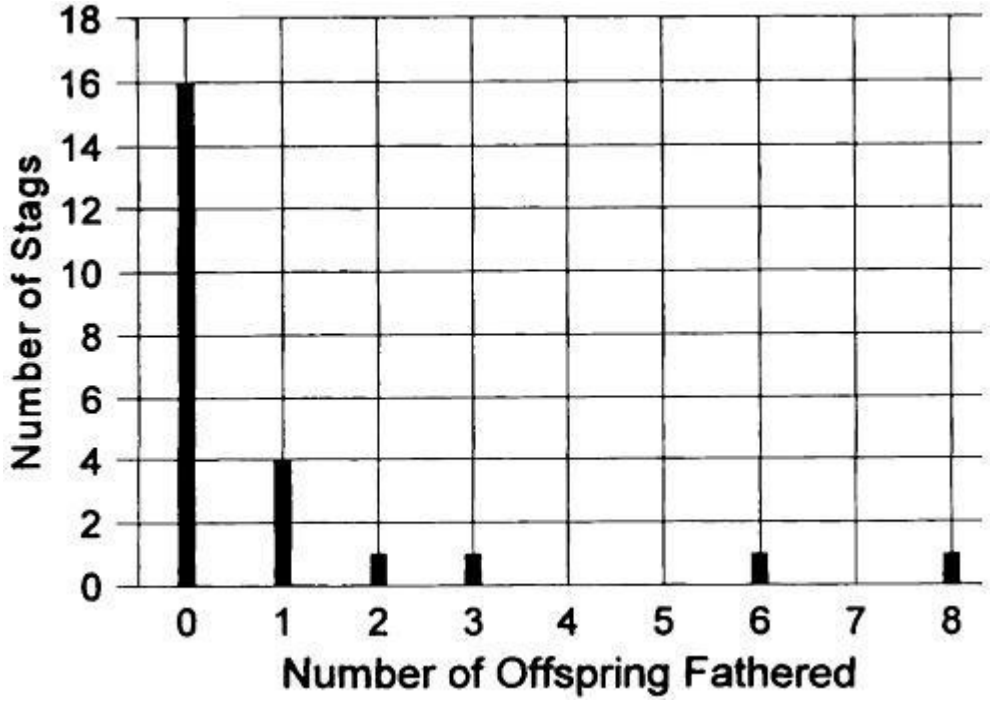

Figure 2. Male red deer reproductive success (n = 25; total offspring = 23).

6 and drops close to 0 before 14 years (Clutton-Brock, 1985). Thus, hinds are reproductively active for 13 years, but because of the intense, violent competition, stags cannot begin to reproduce until age 6 years and are out of the running by age 13, for a total of 7 reproductive years — about half the period for females.

Because (a) most males will fail to reproduce, although a few can be enormously successful; (b) reproductive success is crammed into a much briefer period for males; and (c) reproductive success is the only ultimate goal selected for by natural selection, there must be enormous selective pressure on males to develop physical structures and tendencies that will aid them in attaining access to females. It is not surprising that competition among male red deer is fierce and that they have been selected for greater size, large antlers, and intense aggressiveness.

Because our patients do not generally form harems like red deer, one might wonder about the application of these findings to our topic. It is not the data that apply, but the principle that has been demonstrated with data across numerous species. The principle is that the sex making the smaller parental investment is likely to be more aggressively competitive, to be stronger and larger, to engage in far riskier (potentially deadly) strategies, and to be more willing and eager to engage in the sexual act. And despite the differences between humans and red deer, humans do tend to form harems. When one looks at the anthropological and historical data and categorizes the hundreds of known human societies according to mating patterns, he or she finds that over 80% were nonmonogamous (Hrdy, 1981). Almost all of these involve individual males having exclusive reproductive right to two or more females.

This results in several predictions: Males, in a species where female parental investment is greater, will be highly sexually charged, that is, continuously ready to take advantage of opportunities without necessarily having a concomitant readiness to invest heavily in the potential offspring. Males should be more prone to attempt to engage in sex even when the female is uninterested or resists.[5] Males should be highly competitive for status if this is related to reproductive access to females and should be ready to engage in violence (a high-risk strategy developed within a situation in which there is high variance in success) with other males over direct and exclusive access to females. In fact, these patterns are readily

[5] About 40 years ago, Massachusetts created a law that defined a "sexually dangerous person" and set up special conditions for the custody and treatment of such. Although the law does not mention the sex of such individuals, there have been over 500 men adjudicated as sexually dangerous and not a single woman.

apparent in human males. These are tendencies that can be found in almost all sexually reproducing mammalian species, all known human societies, tendencies that are related to behavioral differences that children demonstrate at an early age, which can be shown to be directly related to the presence or absence of testosterone. Can we assume that such tendencies are solely the result of lived experience in humans? Although surely influenced considerably by lived experience, such a pattern suggests fundamental differences in the biological design of the male and female mind and motivational system.

An evolutionary analysis of castration anxiety may also be informative. Direct observation, clinical data, and evolutionary theory all would suggest that one of the worst insults one can direct at most human males is to question their secondary sex characteristics or their ability to inseminate a female (e.g., to call them "fags," or gay, or to imply that they are feminine). Evolutionary theory would predict that for a female the source of greatest pain is not "penis envy." From an evolutionary, adaptive perspective, what good would a penis do for a female? Rather, the ultimate fear or insult would be that she will never attract a mate and will be a childless "old maid."[6]

Evolutionary theory suggests that these may be primary forms of threats to the self. These fears regarding reproductive failure (in the form of castration anxiety for the male and old maid anxiety for the female) may be primary terrors equaled or exceeded only by the ultimate threat to the self, death. Darwin (1871) pointed out that these are the two primary forces shaping all life: the need *to survive* in order *to reproduce*. It is not surprising that these two concerns — fears of death and fears of reproductive failure — are central features of human identity and that enormous psychic energy is devoted to coping with them. It is clear that in the human psyche, there is a major focus on masculine prowess in human males and on attractiveness in females. Can we accept the classical narrative of how these concerns arise any more than relational narratives such as Kohut's

[6] Old maid anxiety suggests an alternative to penis envy as an explanation of female fears of inadequacy or of being defective or unattractive. Penis envy as a primary and central feature in female psychology may more accurately be thought of as a projection of male psychology onto females. Although some find the term (old maid anxiety) repugnant, please keep in mind that here I am referring to what may be the ultimate insult. Ultimate insults are by their very nature repugnant, and their very repugnancy may directly reflect their importance in the human psyche.

conclusion that such concerns are derived from earlier experiences:

> The little boy's manifest horror at the sight of the female genitals is not the deepest layer of this experience but that behind it and covered by it lies a deeper and even more dreadful experience — the experience of the faceless mother, that is the mother whose face does not light up at the sight of her child. (Kohut, 1984, p. 21)

Surely an unresponsive mother who does not mirror her little boy's developing maleness may exacerbate the horror he experiences when he experiences castration anxiety, but this is not likely to be the essence of the young boy's experience. Evolutionary theory suggests that castration anxiety — a deep-rooted concern over male sexual success, prowess, and ability — in and of itself should be a normal expected phenomenon in human males. In this light, both the classical narrative as well as the self psychological tale regarding the genesis of castration anxiety sound very much like the Clean Twins' explanations of their obsessive-compulsive disorder.

It seems that ancient selective pressures have resulted in a readiness to develop a fear of masculine failure that serves to push boys into aggressive competition and "masculinity proving," an activity that appears to have been selected for because it is adaptive for males. This fear (i.e., castration anxiety) apparently results from several sources. Two of these appear to be, at least in part, built in to the human male: Males almost universally report that a self-enhancing sense of well-being results from their ability to display masculine prowess and anxiety results when unable to maintain such a stance.[7] Although social experiences may greatly affect these internal experiences, it has been shown (e. g., in laboratory experiments on animals) that the related behaviors are significantly affected by the presence and absence of male hormones (Goy, 1968; Hamburg, 1970; Hutt, 1972; S. Levine, 1966; Money, 1965). The biochemical link is certainly far more complicated than this, but what is important is that a biochemical influence has been clearly demonstrated and thus purely learned explanations for these internal experiences and internally motivated behaviors can be ruled out. Explanations that are based to some degree on inherent, internal bodily forces that differ between the sexes cannot be eliminated and replaced by purely experientially based unisexual

[7] In my clinical experience, many, if not most, males who do not feel a sense of comfort and pride engaging in masculine displays — often because of inhibitions and conflicts regarding such displays — can and do acknowledge a wish to be able to do so, jealousy of those males who can, or a wish to be able to display such prowess in atypical (less stereotypical) ways.

theorizing that ignores the possibility of fundamental sexually differentiating biological givens.

Selective forces are relentlessly active. If differing patterns of lust and aggression in human males and females are assumed to be the result of cultural influences only, then what are we to make of the fact that in our species, as in our animal relatives, such gender-differentiated patterns of lust and aggression can be highly adaptive for members of each sex?[8] When these differences meet most if not all of he criteria for concluding that a characteristic has some biological aspects, it becomes questionable to continue building psychoanalytic theories of gender differentiation that are based solely on lived, interpersonal experience.

How Evolutionary Predictions Match Common Observation of Human Gender Differences: Implications for Psychoanalysis

Using the above explanation of just some of the ways in which parental investment places males and females under different selection pressures, we can generate a series of evolutionary predictions about male-female differences that match the common gender differences we try to explain with a psychoanalytic model. Table 1 contains a brief list of some typically seen gender patterns.

Many of these differences have been described by popular authors such as Deborah Tannen, John Gray, and Robert Bly. Yet, in keeping with trends in modern analytic theory, these authors tend to explain the patterns as almost purely learned or cultural. As many of these differences have most of the factors that suggest a psychobiologically innate component, explanations that are wholly experiential are inadequate. What is needed is a gendered model of the human psyche in which some essential building blocks of psychic structure are gendered from the get-go and exert a powerful influence on subsequent experiences.

As in the example of eating to live and hunger, it is clear that the ultimate cause (functional, adaptive aspect of a behavior) may have little in common with the proximal cause (the mechanism actually motivating the behavior in the individual). Thus, an organism can be clearly pursuing an adaptive strategy that may be obvious to observers without any conscious

[8] Kriegman and Kriegman (1997; cf. Keeley, 1996; Wrangham & peterson, 1996) present the extensive data and analysis that show that in large part, the male psyche is adapted to coalitional aggression (racism, nationalism, and war). Although the presentation of this data cannot be included here for lack of space, male coalitional aggression is dramatically different from female patterns of aggressiveness.

Table 1

Predicted Male-Female Differences

Men	Women
Men search for sexual opportunity and are frequently willing (and eager) to engage in sex with little or no relationship.	Women tend to be far more reluctant to engage in indiscriminate sexual activity, more frequently act coy (hesitating to engage in intercourse until courted.
Genetic payoff comes from orgasm during intercourse: Focus is on genital orgasm, which occurs relatively rapidly and easily.	Genetic payoff comes primarily from a stable relationship that can provide stable investment in offspring with little or no genetic payoff from orgasm: Focus is on overall quality of relationship; orgasm tends to occur after greater involvement. Humans are the only species in which the female is unequivocally known to have an orgasm (Hrdy, 1981).
Mate's attractiveness (a composite sign of fertility) is a primary concern: Men tend to choose a mate largely on the basis of attractiveness, often marrying down the socioeconomic scale.	Mate's competence — status (a composite sign of access to resources for potential investment in offspring) is a primary concern: Women tend to choose higher status males, often marrying up the socioeconomic scale.
Major internal conflict between dual strategy: seek power and sex through the use of other people as objects (often involving fairly high levels of aggression) vs. seek loving relationships. To use aggressive strategy, needs to be able to turn off guilt; to maintain loving relationships, needs to be responsive to other's feelings. Result: high conflict.	Far less advantage from status and the aggressive use of people as objects leads to far less conflict between motives to maintain human relatedness (what some theorist call connection) vs. the pursuit of power over others. As use of overt aggression is dangerous in negotiating relationships with men, mechanisms appear to exist for taking advantage of high level of male conflict over dual strategy, that is, more frequent crying and posturing as victim.
The ability to dissociate from certain feelings to (a) engage in coalitional aggression (kill), (b) compete with fierce intensity in sociopolitico-economic struggles, and (c) at times negotiate intimate relationships using high levels of force (act abusively).	Less of a tendency to dissociate from feelings of concern for other in order to be able to use power over others in a ruthless manner.
In the pursuit of status — power, friendships are more fluid than alliances for competitive struggle.	Friendships are valued for their intrinsic worth — what is obtained from the relationship itself — and may be more enduring.
Great tendency to use force and violence to achieve sociopolitical goals and to engage in rough-and-tumble play as children in preparation for the use of (and defense against) coalitional aggression as adults. Behavioral pathology in childhood (attention deficit hyperativity disorder) and adolescence (e.g., gang violence) is common.	Far less likely to become dangerously violent either individually or in groups. Far less behavioral pathology. Coalitions and alliances used in competitions are more fluid and changing. Note the differences — usually reported as learned (culturally induced) — in male and female team sports.

Table 1
(continued)

Men	Women
Self-esteem derived in large part from status in the power hierarchy and ability to perform actions that maintain status or relationships with powerful males. Vulnerable feelings (e.g., crying) are not signs that one is a potentially powerfully aggressive ally and must be thoroughly suppressed.	Self-esteem derived in large part from the ability to attract a high-quality mate and through intimate connections with friends and family.
Throughout human history, low-status men often did not reproduce, so self-esteem and status are issues of do-of die importance: Men commit suicide at a relatively high rate when they become ashamed.	As status is much less important for reproductive success, there is less of a do-or-die quality to women's shame-based concerns and far lower suicide rate.
Castration anxiety, penis envy (regarding other males' size, power, status, etc.) — fears about being or being perceived as an incompetent male — are central: Compensatory behavioral pathology is common (e.g., acting out in dangerous or violent ways).	Old maid anxiety — fears about being unattractive female — is central: Body image pathology is common (e. g., anorexia or bulimia).

Or unconscious intent to do so. This can lead to major misunderstandings of motivation and may be the basis for some severe critiques of psychoanalysis. For example, consider the classical psychoanalytic understanding of the human preoccupation with sexuality. In men, this seems to be a reflection of reality: Anecdote, analytic experience, and empirical studies all conclude that men are in fact far more preoccupied with sexual thoughts and fantasies than women (Buss, 1995; Baumeister, in press; Herman, 1993; Wright, 1994). Penis envy also is alive and well. However, in my clinical experience, it is primarily found in men who are constantly comparing their size, potency, prowess, status, and so on. Feminists have rightly criticized psychoanalysis for the attempt to characterize female sexuality as a variant of male sexual concerns.

Let us look at how the confusion between ultimate and proximal causes can cause confusion in psychoanalytic theory and practice. If a female patient's associations do not demonstrate the type of preoccupation that men have with sex, then some analysts assume that such a preoccupation exists in her unconscious. If a female patient dresses in a manner that her male analyst finds sexually provocative, he may conclude that the motive to arouse him exist in her. In fact, the male analyst may be encouraged to explore his inner experience to see what feelings his patient is trying to arouse within him (or what she may be defensively avoiding

through projective identification). If she denies any such conscious thought, either she is consciously being deceptive (lying), or she is telling what she believes to be the truth, and the true motive is repressed, hidden away in her unconscious but exerting influence on her behavior.

Yet, males and females of all species may act in a manner that reliably brings about a particular effect without any conscious or unconscious motive containing any direct knowledge of the particular functional effect. This is assumed to be so in primitive species in whom the behavior looks mechanical (reflexive), and higher cortical awareness at either the conscious or unconscious level is assumed to be lacking. People have difficulty accepting the highly effective mechanisms that govern their emotional life and behavior without necessitating the use of their higher, uniquely human mental processes. This resistance is a response to the blow to human narcissism the Freud (1917/1955) believed was central to both evolutionary biology and psychoanalysis.

To return to my example of the analytic interpretation of female sexuality, a woman may act enticingly without full awareness of how stimulating she may be to men.[9] An example is the woman who does her best to be attractive and look young by wearing makeup and stylish clothing designed to advertise her feminine figure by highlighting certain secondary sex characteristics (e.g., enhancing the apparent protrusion of her breasts, buttocks, and hips) yet is genuinely confused (and angry) when she is treated as a sex object. The classical analyst might insist that her behavior indicates an unconscious wish to be ravished or raped — or to be treated sexually in a manner consistent with the male desires aroused — and in such a view, her anger might be considered to be part of reaction formation that helps to maintain the repression of her true motives. The evolutionary psychoanalytic view, however, suggests that such interpretations may be better understood as projections of male wishes (cf. Weisstein, 1971) mixed with confusions of proximal and ultimate cause. The woman's motive — both consciously and unconsciously — in the particular situation may be to be found attractive without necessarily wanting to stimulate intense male lust and desire.[10]

---

[9] Indeed, if men and women are fundamentally different in their experience of sexual desire — as suggested by evolutionary theory as well as by an enormous amount of observational data — then it is as unlikely that a woman would be able to know how she is affecting sexually hypercharged males even though she may have some intuitive ability to sense what it might be like (just as a man may have some sense of what it might be like to carry and deliver a baby).

[10] In another situation, the same woman may indeed have sexual wishes of the type described by classical theory. The point is that the experience created in an observer is an unreliable indicator of the individual's motivations. Is she acting on a conscious or unconscious desire? Or is he projecting his desire? Or is it a mixture of the two? Unlike theories of projective identification and others that recommend the use of countertransference to identify a patient's unconscious (or unstated) motivation,

A repressed wish to drive men to distraction may not be operating even in women whose appearance and behavior often do just that.

Am I saying that such female behavior is unrelated to the male response? Can it be that women spend enormous effort, time, and money to behave in a way that regularly and reliably produces a specific effect and yet the behavior and the effect are unrelated? It has been well documented in several societies that attractive women marry up the socioeconomic scale: The ability to arouse men has significant adaptive advantages for women (Buss, 1992; Elder, 1969; Fisher, 1992; Ridley, 1993). Women whom men find intensely arousing often have enormous power to select their mate from a large pool of possibilities. Compared with their responses to relatively unattractive women, men will take great risks and make extraordinary efforts to obtain reproductive rights with attractive women. Certainly the vast preoccupation with beauty and the massive industries that arise from that preoccupation cannot be mere accidents. Whether one takes an overly simplistic biological view, a strictly cultural view, or the more reasonable view of a mixture of the both biological and experiential factors as shaping human behavior, one cannot deny the ubiquitousness of women's attempts to enhance their beauty as well as men's preoccupation with it. When women go to such efforts to engage in this behavior and men are so aroused, how can I say that there may be no conscious attempt on the part of women to arouse men sexually?

Although many women do experience the desire to be sexually exciting, there is no evidence that such a motive operates consciously or unconsciously on a minute-to-minute basis (e.g., in the school, on the bus, in the workplace, or in the analytic setting). Even if evidence suggests that most women have such desires at times, the notion that these desires are acting as nearly as ubiquitously, consciously or unconsciously, as the male sexual response suggests may be more accurately seen as a projection. Both the stimulating behaviors and the stimulation exist. Yet, it apparently does not require direct, intentional effort to stimulate fairly intense sexual desire in sexually preoccupied creature. There may be motives (proximal

---

in this view, feelings aroused in the therapist are far more likely to be accurate clues to the therapist's psychic life and, at best, biased indicators of the patient's experience and motives. Although feelings in the therapist may correspond to what is going on in the patient, they may not.

mechanisms) that generate behavior that stimulates men without a conscious or unconscious intent to produce the male experience. With the distinction between proximal mechanisms (e.g., the motivation to maximize one's attractiveness through various means) and ultimate causes (e.g., the arousal of intense male desire that enhanced female choice and gave an adaptive [reproductive] advantage to the women in the past who were able to arouse such interest), evolutionary psychologists come to a different conclusion about what may exist in the female psyche today. In this view, the conclusion that stimulating raw, male lust is the unconscious wish in women may largely be a projection of men's desire. The logical error in attributing the intent to arouse the male to an unconscious impulse in the woman to do so is similar to reaching the conclusion that because eating behavior obviously functions to enable one to live, the motivation for eating is to live and — hunger and the desire for food aside — if we examine the unconscious, we will find that the true motivation that leads us to eat is the wish to live.

Yet, it is often obvious that there is an enormous advantage to the attractive woman to be so perceived (e.g., the extremely valuable ability to exercise a great deal of choice in selecting a mate). The ultimate cause (the enhancement of the self-interest of a woman through maximizing the simulation of men) can be obvious from observing the proximal mechanism in action today. However, this does not justify one to take the ultimate cause meld it with the male experience, and then project it into the female psyche. The result of this confusion of proximal with ultimate causes and the male analyst's melding of this confusion with the human tendency to project leads to the presumption of a conscious or unconscious wish in women to produce the male sexual experience. The woman then becomes largely responsible for male sexual desire.

Although the crudest form of this projection is repugnant to us all — the rapist's claim that "she wanted it" — I am, in fact, suggesting that this is only a more extreme version of the same interpersonal process that occurs in analysis. I have heard many analytically trained psychotherapists talk about their "hysterical" patients in this manner. As an example, consider Freud's (1905/1953) analysis of Dora. Dora recounted that she was alone with a handsome, married businessman, a friend of the family whom she knew well. Herr K "suddenly clasped the girl to him and pressed a kiss upon her lips. This was surely just the situation to call up a distinct feeling of sexual excitement in a girl of fourteen who had never before been approached" (Freud, 1905/1953, p. 28). Freud considered Dora's lack of such a response evidence of hysteria as if the normal feeling in an

inexperienced girl of 14 who is suddenly sexually accosted by an adult male friend of the family should be sexual excitement.

From an evolutionary perspective in which sex can be a very costly act for the female and is relatively risk free (with a potential for terrific genetic payoff) for the male (Trivers, 1972), this is, at best, an interesting conclusion. This type of assumption — that the analyst has objective knowledge of what is universal and normal (e.g., that the lack of a typical male response in a woman indicates hysterical repression of sexuality) — is a potentially iatrogenic projection that occurs in many forms, not only around sexuality (discussed more fully in Kriegman, 1996, 1998, in press).

Clinical Implications: Three Brief Vignettes

Steve.

How would an analyst understand the dynamics of Steve, who finds himself unable to make a commitment to the woman he has lived with for 8 years? For 8 years, he has complained about he fact that she is overweight. His analyst interpreted this as a fear of commitment in much the same way that analysts for many years have issued interpretations of the "perversion" homosexuality (e.g., in terms of overwhelming guilt, of fear of the mother, and of castration). Indeed, Steve was highly conflicted over his feeling that he should be able to overcome his lack of attraction to his girlfriend. Indeed, he felt a great deal of shame over the fact that he could not ignore his desire for other women and make the commitment to her. This conflict was heightened in his analysis, in which Steve felt his analyst was frustrated with his childish refusal to face and overcome his commitment anxieties.

Yet, now that gay or lesbian sexual orientation is no longer considered a perversion, should we not also reconsider other sexual object choices as being potentially legitimate? Years of analytic effort to change lesbians and gay men into heterosexuals have resulted mostly in the need to recognize the limits of our ability to change such preferences. Although pedophilia is still considered to be perversion, the results in treating fixated pedophiles have been dismal. Whether considering behavior that is considered normal or pathological, clearly formed sexual object choices do not appear amenable to change. Should we not try to depathologize the relatively recently pathologized male tendency to be guided by physical attractiveness in making relationship decisions? Males appear to be highly responsive to a fairly well specified set of visual cues in selecting a mate in all cultures (Singh, 1993) and in all sexual orientations.

This evolutionary perspective suggests that the 8 years of misery Steve has experienced (and inflicted on his partner) should indeed be

understood and analyzed. However, once his desire for an attractive partner is depathologized, we can open up the dialogue and — in addition to whatever anxieties about commitment that he may have — consider the exploration of his pathological guilt, fears of failure, and other factors that render him unable to pursue his genuine wishes. The search for pathology, for the maladaptive, might also be focused by his partner's therapist on her toleration of considerable abuse regarding her weight rather than trying to aid her on working with Steve over his "commitment phobia," which did not lead to her taking the problem seriously and losing the weight or Steve.

Betty.

Betty feels like a boop. She knows she acts coy, feels guilty about it, and labels herself a "cockteaser." She and her therapist have explored the possibility that she exhibits the sexual inhibition of a hysterical personality and possibly a pathological lack of empathy in her willingness to allow men to go to great lengths to date and court her without her "giving back" anything in exchange or being more clear about the limits of her interest. Not surprisingly, her male analyst finds her to be quite attractive, flirtatious, and finds himself aroused during sessions. He notes that she sometimes wears short dresses and sits in a way that he finds very provocative. He feels sure that she is attempting to arouse him. When he tries to explore it with her, she is able to acknowledge that men find her attractive, is embarrassed to say she is attractive, and denies any attempt to arouse the therapist. In further exploration, Betty reluctantly revels that she does feel good when she notices reactions in the therapist that could be signs of his arousal. Although they do not come to a clear conclusion about the importance of this motive in the therapy (and her life), is it possible that for Betty, this focus may be "barking up the wrong tree"? Even if her coy behavior is partly derived from a somewhat fluid repression-expression of her sexuality, is it possible that this style is adaptive and that her problem lies in a different arena?

In fact, Betty is quite attractive, and her flirtatious style makes her even more so; she always has a few men interested in dating her. She has fallen in love on two occasions. The first, a high school romance, ended with a sad separation when they want off to separate colleges. The second ended painfully for Betty when her boyfriend transferred to another college. Both relationships formed after significant periods of courtship, and both were sexual although fairly limited. There have been other relationships that appear to have some potential, some lasting quite a while, but Betty has not fallen in love since, although more than one or two men have fallen in love with her. Betty feels like a "selfish bitch" for making

them suffer the way she suffered the two times she fell in love. Some of her female friends admonish her for being a "user."

Hysterical personality or adaptive feminine behavior? Keeping in mind that Betty receives a lot of attention from men and that one of the times she fell in love was only after a very lengthy courtship, could her behavior be adaptive? Betty is an intelligent capable woman who is already involved on a career path she finds enjoyable, yet she looks forward to being married and focusing her energies on raising children. Given the responses from men, Betty is likely to be able to find a man who can provide her with what she seeks. The fact that she fell in love after a lengthy courtship suggests that she is not simply standing on the sidelines. She is actively involved, and if the man arouses her interest, she is ready to respond. From an evolutionary perspective, Betty may be behaving in a highly adaptive fashion. Her coy behavior encourages men to court her to she can optimize her use of female choice to eventually mate with the highest quality male that meets her personal preferences. Is this a sign of pathology or of highly adaptive behavior? Should her therapy be analyzing her "hysterical personality" or the conscious and unconscious sources of her guilt over the conflict she experiences between the effective pursuit of her own adaptive ends and the sad fact that this may indeed cause others to feel pain?

Bobby.

Bobby posed a real management problem for his third-grade teacher, who referred him to the school psychologist. After diagnosing attention deficit hyperactivity disorder (ADHD), the psychologist consulted with Bobby's pediatrician, who placed him on Ritalin.[11] Bobby did not want to take the Ritalin and struggled on and off, alternately refusing the medication., engaging in a struggle with the school and his teachers, then finally acquiescing and trying it again. Bobby was brought to an analytic therapist who attempted to engage him in looking at his struggles and their emotional meanings. Although his parents insisted that he go — especially when he was refusing to take his Ritalin — no alliance was formed, and Bobby would just sit sullenly in the therapist's office. The therapist tried various types of play therapy and tried to explore Bobby's feelings from a wide variety of analytic perspectives. Both the therapist and Bobby felt tortured by the other. Not only did bobby end up in chronic struggles with his parents, the school, and the therapist, but he also suffered

[11] Both of the pediatrician's own children were on Ritalin. The pediatrician's husband also was a pediatrician, and together their group practice treated many of the children in the local community. Thus, a good percentage of the male children in Bobby's school were on Ritalin.

from a common side effect of Ritalin that stunted his growth through the suppression of his appetite.

Unfortunately for Bobby, no one considered the possibility that he was right. From the evolutionary perspective, we must consider the possibility that there is currently and iatrogenic epidemic of Ritalin prescribing for male children. Boys are 10 times more likely to be diagnosed with ADHD and account for more than 75% of the 1 million children taking Ritalin (Pollack, 1998). If males have been selected to engage in rough-and-tumble play as children in preparation for intense male-male competition and active participation in or defense against coalitional aggression as adults, then what does it mean for us to design school settings in which as much as a quarter of the boys-and relatively few of the girls-are diagnosed as having ADHD? If a significant percentage of boys are failing to sit quietly at their little desks arranged in straight rows and columns, is this an indication of a mental disorder or the attempt to put budding warrior pegs into holes of intolerable passivity?

Indeed, aside from the struggles in school (and out of school over Ritalin and therapy), Bobby was remarkably well behaved. His parents had to admit that they had little or no trouble with Bobby around the house, with chores, and with other children. On athletic teams, Bobby was not only popular with the kids for being an outstanding athlete but also very well liked by the coaches, who found him to be a model of good sportsmanship. Like the Cinnamon Twins, if Bobby had his "spice" (freedom to move around), he was remarkably well behaved. The search for analytic just-so explanations of problems like Bobby's ought to be delayed until after a thorough search is conducted for the adaptive strivings that might be struggling for expression in the context of a conflict with the environment.

Conclusion

Regardless of how gender biased they may ultimately be, psychoanalytic theories all have a unisex model of the essential nature of the human kind. It is time for psychoanalysis to grapple with the innate differences between males and females and acknowledge that in some significant aspects, male and female psyches are fundamentally different in ways that exist before developmental experience. This acknowledgment must occur even though these differences (as well as all other psychological events) cannot be known outside of the context of intersubjective experience that inevitably affects the form they appear to take and these differences are complexly

and inextricably intertwined with the subsequent experience they affect and are affected by.

Clinically, this can open up the range of interpretation possible. Innate differences as well as the impact of experience might lead a therapist to see Steve as having a commitment phobia, to question his partner's toleration of abuse, and to consider the possibility that Steve's concern about weight was potentially irreducible (i.e., as not necessarily interpretable as an issue regarding commitment). This might have added his partner and her therapist in a more thorough examination of what stopped her from either leaving the relationship or putting the issue to the test (by losing he weight) rather than engaging in a protracted struggle over Steve's ability to commit. This protracted struggle may then have been curtailed and helped both of them avoid many painful years of struggling during which Steve's partner lost the opportunity to have children.

The evolutionary perspective does not tell us which approach is correct. Rather, it opens the range of possibility and potential action. By considering the possibility that certain analytic interpretations are just-so stories, the range of what is real in the analytic space is opened up to be confirmed by the data discovered there rather than imposed by a narrow experientialist (social constructivist) theory. In an evolutionary perspective, both the experiential analytic interpretations and other sources of information and motivation (i.e., built-in, innate sources) must be considered.

References

Baumeister, R. F. (in press). Gender differences in erotic plasticity: The female sex drive as socially flexible and responsive. *Psychological Bulletin*.

Buss, D. (1992). Mate preference mechanisms: Consequences for partner choice and intrasexual competition. In J. H. Barkow, L. Cosmides, & J. Tooby (Eds.), *The adapted mind* (pp. 249-266). New York: Oxford University Press.

Buss, D. M. (1995). Psychological sex differences: Origins through sexual selection. *American Psychologist*, 50, 164-168.

Clutton-Brock, T. H. (1985). Reproductive success in red deer *Scientific American*, 2, 86-93.

Darwin, C. (1871). *The descent of man, and selection in relation to sex*. London: John Murray.

Ehrhardt, A. A., Evers, K., & Money, J. (1968). Influences of androgen and some aspects of sexual dimorphic behavior in women with the late-treated adrenogenital syndrome. *John Hopkins Medical Journal*, 123, 115-122.

Elder, G. H. (1969). Appearance and education in marriage mobility. *American Sociological Review*, 34, 519-533.

Fisher, H. E. (1992). *Anatomy of love: The natural history of monogamy, adultery, and divorce*. New York: Norton.

Freud, S. (1953). Fragment of an analysis of a case of hysteria. In J. Strachey (Ed. and Trans>). *The standard edition of the complete psychological works of Sigmund Freud* (Vol. 7, pp. 3-124). London: Hogarth Press. (Original work published 1950) [→]

Freud, S. (1995). A difficulty in the path of psycho-analysis. In J. Strachey (Ed. and Trans.), *The standard edition of the complete psychological works of Sigmund Freud* (Vol. 17, pp. 136-144). London: Hogrth Press. (Original work published 1917) [→]

Goy, (1968). Organising efforts of androgen on the behavior of rhesus monkeys. In R. P. Michel (Ed.), *Endocrinology and human behavior* (pp. 12-31). London: Oxford University Press.

Green, A. (1995). Has sexuality anything to do with psychoanalysis? *Int. J. Psycho-Anal.*, 76, 871-883. [→]

Hamburg, D. A. (1970). Sexual differentiation and the evolution of aggressive behavior in primates. In N. Kretchmer & D. Walcher (Eds.), *Environmental influences on genetic expression: Biological and behavioral aspects of sexual "differentiation"* (pp. 141-151). Bethesda, MD: National Institutes of Health.

Herman, H. (1993, March). Question: How often do men think about sex? *Ladies Home Journal*, pp. 96-99.

Hrdy, S. B. (1981). *The woman that never evolved.* Cambridge, Ma: Harvard University Press.

Hutt, C. (1972). Sex differences in human development. *Hunam development*, 15, 153-170.

Keeley, L. H. (1996). *War before civilization: The myth of the peaceful savage.* New York: Oxford University Press.

Kohut, H. (1984). *How does analysis cure?* Chicago: University of Chicago Press.

Kriegman, D. (1996). On the existential/subjectivism—scientific/objectivism dialectic in self psychology: A view from evolutionary biology. In A. Goldberg (Ed.), *Progress in self psychology.* (Vol. 12, p. 85-119). Hillsdale, NJ: Analytic Press.

Kriegman, D. (1998). Interpretation, the unconscious, and psychoanalytic authority: Toward an evolutionary, biological integration of the empirical/scientific method with the field-defining, empathic stance. In R. F. Bornstein & J. M. Masling (Eds.), *Empirical perspectives on the psychoanalytic unconscious* (pp. 187-272). Washington, DC: American Psychological Association.

Kriegman, D. (in press). The process of cure in dynamic psychotherapy: An evolutionary biological perspective. In P. Gilbert & K. Bailey (Eds.), *Genes on the couch: Explorations in evolutionary psychology.* East Sussex, England: Psychology Press.

Kriegman, D., & Kriegman, O. (1997, June). War and the evolution of the human propensity to form nations, cults, and their associated belief systems. Paper presented at the Annual Human Behavior and Evolution Society Conference, Tucson, AZ.

Levine, H. (1998). Eros Revisited. *Psychotherapy Forum*, 4, (3), 4-6.

Levine, S. (1966). Sex differences in the brain. *Scientific American*, 214, 84-90.

Master, W. H., Johnson, V. E., & Kolodny, R. C. (1995). *Human Sexuality* (5th ed.). New York: Harper Collins.

Money, J. (1965). Psychosexual differentiation. In J. Money (Ed.), *Sex research: New developments.* New York: Holt, Rinehart & Winston.

Money, J., & Ehrhardt, A. E. (1972). *Man & woman, boy & girl.* Baltimore: Johns Hopkins University Press.

Money, J., & Schwartz, M. (1977). Dating, romantic, and non-romantic friendships, and sexuality in 17 early-treated adrenogenital females, aged 16-25. In P. Lee (Ed.), *Congenital adrenal hyperplasia* (pp. 97-118). Baltimore: University Park Press.

Neubauer, P. B., & Neubauer, A. (1990). *Nature's thumbprint: The new genetics of personality.* Reading, MA: Addison-Wesley.

Pollack, W. (1998). *Rescuing our sons from the myths of boyhood.* New York: Random House.

Ridley, M. (1993). *The red queen: Sex and the evolution of human nature.* New York: Macmillan.

Singh, D. (1993). Adaptive significance of female sexual attractiveness: Role of waist-to hip ratio. *Journal of Personality and Social Psychology*, 65, 293-307.

Slavin, M. O., & Kriegman, D. (1992). *The adaptive design of the human psyche: Psychoanalysis, evolutionary biology, and the therapeutic process.* New York: Guilford Press.

Trivers, R. L. (1972). Parental investment and sexual selection. In B. Campbell (Ed.), *Sexual selection and the descent of man*, 1871-1971 (pp. 136-179). Chicago: Aldine-Atherton.

Trivers, R. L. (1985). *Social evolution*. Boston: Addison-Wesley.

Weissten, N. (1971). *Psychology constructs the female, or the fantasy life of the male psychologist.* Andover, MA: Warner Modular Communications.

Wranghman, R., & Peterson, D. (1996). *Demonic males: Apes and the origins of human violence.* Boston: Houghton Mifflin.

Wright, R. (1994). *The moral animal: Why we are the way we are.* New York: Vintage Books.