MALE AGGRESSION AGAINST WOMEN
An Evolutionary Perspective

Barbara Smuts
University of Michigan

Male aggression against females in primates, including humans, often functions to control female sexuality to the male's reproductive advantage. A comparative, evolutionary perspective is used to generate several hypotheses to help to explain cross-cultural variation in the frequency of male aggression against women. Variables considered include protection of women by kin, male–male alliances and male strategies for guarding mates and obtaining adulterous matings, and male resource control. The relationships between male aggression against women and gender ideologies, male domination of women, and female sexuality are also considered.

KEY WORDS: **Aggression; Reproductive strategies; Nonhuman primates; Cross-cultural analyses; Social relationships; Pair bonds.**

The worldwide prevalence of male violence toward women has recently become disturbingly evident. Russell's (1984) careful survey of 930 San Franciscan women indicates that one-quarter of American women will experience a completed rape at some time in their lives, and nearly one-half will be victims of attempted or completed rape. Since the age of 14, 27.5% of college women have experienced an attempted or completed rape (Koss et al. 1987). Each year, approximately 1.8 million American

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Address all correspondence to Barbara Smuts, Department of Psychology, University of Michigan, 580 Union Drive, Ann Arbor MI 48109-1346.

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wives are beaten by their husbands (Strauss 1978), and one-eighth of all murders involve husbands killing their wives (Hutchings 1988).

Although the prevalence of male violence against women varies from place to place, cross-cultural surveys indicate that societies in which men rarely attack or rape women are the exception, not the norm (Broude and Greene 1978; Levinson 1989; Sanday 1981). Cross-culturally, as well as in the United States, male sexual jealousy is the most common trigger for wife beating (Counts et al. 1991; Daly and Wilson 1988).

Why is male aggression against women so common? Why is this aggression so often linked to sex? And why is male aggression against women more frequent and intense in some societies than in others? This paper examines these issues from an evolutionary perspective, which assumes that in humans, as in many other animals, male aggression against females often reflects male reproductive striving (Burgess and Draper 1989; Daly and Wilson 1988). The paper includes four distinct parts. I begin by considering male aggression against females and female resistance to it in nonhuman primates. This review indicates that male use of aggression toward females, particularly in a sexual context, is common in primates, which suggests that male aggression against women may often represent species-specific manifestations of widespread male reproductive strategies aimed at control of female sexuality. In the second part of the paper, I use evidence from nonhuman primates, especially apes, as a source of hypotheses concerning how male aggressive coercion may have influenced the evolution of human pair bonds. In speculating about the role of male sexual coercion in human social evolution, I necessarily focus on general patterns that distinguish humans, as a species, from other primates. As Rodseth, Smuts et al. (1991) argue, the identification of these general, species-specific human social patterns should not be viewed as an end in and of itself, but as a starting point for analysis of cross-cultural diversity. Thus, in the third section of the paper, I use both evolutionary theory and comparative analysis involving other primates to generate a series of hypotheses to help to explain variation across cultures in male aggression toward women. The fourth and final section discusses the implications of an evolutionary approach to male aggression against women and considers possible directions for future research.

Although an evolutionary analysis assumes that male aggression against women reflects selection pressures operating during our species' evolutionary history (Burgess and Draper 1989; Daly and Wilson 1988), it in no way implies that male domination of women is genetically determined, or that frequent male aggression toward women is an immutable feature of human nature. In some societies male aggressive coercion of women is very rare, and even in societies with frequent male

aggression toward women, some men do not show these behaviors (e.g., Counts 1991). Thus, the challenge is to identify the situational factors that predispose members of a particular society toward or away from the use of sexual aggression. I argue that an evolutionary framework can be very useful in this regard.

MALE AGGRESSION AND FEMALE RESISTANCE IN PRIMATES

Male reproductive success is limited by the ability to fertilize females; for this reason, in most animals males provide no parental care but focus instead on gaining additional opportunities to mate (Trivers 1972). Males typically benefit by mating with any female who is potentially fertile, whereas females do not benefit by mating with every male who comes their way. Females benefit from being choosy about their mates because some males provide better genes than others, or because some males are better able or more willing to provide the female with resources, parental care, protection, or other benefits that aid female reproduction (Trivers 1972).

Male eagerness to mate, combined with female reluctance to reproduce with any male who comes along, creates an obvious sexual conflict of interest that is virtually universal (Hammerstein and Parker 1987). Sometimes males improve their chances of mating by offering benefits to females, such as food, protection, or assistance in rearing young (Smuts and Gubernick 1990; Trivers 1972). But sometimes males attempt to overcome female resistance by employing force, or the threat of force. *Male sexual coercion* can be defined formally as "male use of force, or its threat, to increase the chances that a female will mate with the aggressor or to decrease the chances that she will mate with a rival, at some cost to the female" (Smuts and Smuts 1992). Sexual coercion and female resistance to it are important phenomena to examine in other animals, because the outcomes of these struggles can illuminate the balance of power between the sexes and how it varies under different circumstances. Here, I focus on sexual coercion in nonhuman primates. I first present some examples of male sexual coercion and the costs it imposes on females, and I then consider how females resist male attempts to forceably control them.

Male Sexual Coercion

In many monkeys and apes, during the period when the female is in estrus, that is, when she is fertile and sexually receptive, she receives significantly more aggression from males, and often receives more

wounds, than at times when she is not in estrus (see Smuts and Smuts 1992 for references). Rhesus monkeys provide a clear example. These Asian macaques live in large, multimale, multifemale troops, and adult males are about 20% larger than adult females. In a recent study of female mate choice in a provisioned, free-ranging colony of rhesus monkeys in Puerto Rico, Manson (1991) found that females in estrus consistently approached peripheral and low-ranking males in order to mate with them. When a female associated with a low-ranking male, however, she was vulnerable to aggression by high-ranking males, who disrupted the pair by chasing or attacking the female on average between three and six times per day. Manson found a direct relationship between the amount of time an estrous female spent with low-ranking males and the rate at which she received aggression from other males. Despite this risk, females persisted in their attempts to mate with the males of their choice.

Rhesus males attempt to control females mainly when the females are in estrus, and they show less aggression toward females at other times. In some other primates, such as hamadryas baboons, males try to maintain control over females all the time (Kummer 1968). Hamadryas baboons form small groups containing a single breeding male, several adult females, and their immature offspring. Several of these one-male units associate in larger units called bands, which also include a number of "bachelor" males without females of their own, who are eager to mate. Day in and day out, the breeding males persistently herd their females away from these bachelor males. Whenever a female strays too far from her male, he will threaten her by staring and raising his brows. If she does not respond instantly by moving toward him, he will attack her with a neckbite (Kummer 1968). The neckbite is usually symbolic—the male does not actually sink his teeth into her skin—but the threat of injury is clear.

Male sexual coercion also appears to be a prominent feature of the societies of wild chimpanzees. Chimpanzees live in large communities with 8–20 adult males and many adult females and young (Goodall 1986; Nishida and Hiraiwa-Hasegawa 1987). Male chimpanzees remain in their natal communities and are therefore related to one another; females typically transfer between communities at sexual maturity. When a female chimpanzee undergoes sexual cycles (which happens for only a few months once every 5 years or so), the males in her group compete over opportunities to mate with her, especially as she nears ovulation, when her sexual swelling reaches its maximum size (Hasegawa and Hiraiwa-Hasegawa 1983; Tutin 1979). When many males are present, the most dominant, or alpha male, usually prevents any other males from mating with her. Low-ranking males therefore try to lure estrous

females into the forest, away from other chimps, where they can mate in peace. These consorts may last for several weeks and, at Gombe, are responsible for roughly one-third of all conceptions. If the female is willing to go, as she sometimes is, then the pair simply sneaks away. But if the female is unwilling, the male will employ what Goodall (1986:453) terms "a fair amount of brutality" to try to force her to accompany him. He will repeatedly perform aggressive displays around her to induce her to follow him, and if she still does not follow, he will attack her. It is impossible to tell how many consorts involve reluctant females forced to accompany males, because, in cases in which the female apparently willingly follows the male, she may do so because of aggression received from him in the past. Indeed, Goodall reports a high frequency of "unprovoked" attacks on females in the early phases of sexual swelling, which she interprets as a male tactic to intimidate the female so she will be less likely to resist future efforts to mate with her. Goodall (1986) concludes that, unless a male chimpanzee is very old or ill, he can usually force an unwilling female to consort with him through these efforts.

Although male chimpanzees use aggression to force reluctant females to accompany them, the use of force during the sexual act is rare in this species and in most other nonhuman primates. Orangutans are a striking exception. Among wild orangutans, most copulations by subadult males (e.g., Galdikas 1985; Mitani 1985) and nearly half of all copulations by adult males (Mitani 1985) occur after the female's fierce resistance has been overcome through aggression. Orangutan females' solitary habits, unique among anthropoid primates, may help to explain their vulnerability to forced copulations (see below).

Male primates' use of force to increase sexual access to females can also involve infanticide (Hrdy 1979). In a wide variety of nonhuman primates, males kill infants sired by other males (Hausfater and Hrdy 1984; Struhsaker and Leland 1987). Because a return to sexual cycling is inhibited by lactation, death of the infant typically brings the mother into estrus sooner than would occur otherwise, and in many instances, the infanticidal male subsequently mates with the mother. Infanticide may be considered a form of sexual coercion because it involves the use of force to manipulate the female's sexual state and mating behavior to the male's advantage, while imposing a cost on the female (Smuts and Smuts 1992).

Costs to Females of Male Sexual Coercion

The reproductive costs to females of male aggression in general and sexual coercion in particular appear to be considerable. As indicated

above, females are frequently wounded, sometimes severely, during male aggression in the mating context, but quantitative data on rates and severity of wounding are scarce (Smuts and Smuts 1992). Occasionally females die as a result of male aggression (olive baboons: personal observation; rhesus macaques: Lindburg 1983; chimpanzees: Goodall 1986).

The costs of infanticide are easier to measure. Among grey langurs, when a usurper replaced the resident male, 40% of the infants present and 34% of infants born shortly afterwards were killed (n = 115 infants in 12 troops; Sommer 1990). Since male takeovers occur on average every 26.5 months (Sommer and Rajpurohit 1989), infanticide is clearly an important source of infant mortality. In red howlers, 44% of all infant mortality is due to infanticide (Crockett and Rudran 1987). Watts (1989) gives a similar figure (37%) for mountain gorillas.

Male aggression also inflicts numerous, more subtle costs on females related to reduced foraging efficiency, the energetic efforts of maintaining vigilance against male violence, and constraints imposed on female ability to form social relationships, including restrictions on female mate choice (Smuts and Smuts 1992). When we look closely we find that, in many primates, hardly an aspect of female existence is not constrained in some way by the presence of aggressive males.

Female Strategies to Resist Male Aggression

Female primates employ a variety of means to resist male aggression, including sexual coercion (reviewed in Smuts and Smuts 1992); these tactics include physiological responses that alter the timing of reproduction in ways that thwart male infanticide (Hrdy 1977, 1979). Most interesting for our purposes, however, are strategies of resistance based on social relationships. In rhesus monkeys, females form strong, life-long bonds with their female kin, and females cooperate to protect their female relatives against male aggression (Bernstein and Ehardt 1985; Kaplan 1977). This pattern of forming long-term bonds with female kin is common in Old World monkeys, and in all of these "female-bonded" species (Wrangham 1980), females band together against males (Smuts 1987).

Male aggression is constrained in female-bonded species not just because of the threat of female coalitions but also because females in these groups influence the outcome of male–male competition for dominance. In rhesus macaques and vervet monkeys, for example, a male's quest to achieve and maintain high dominance status is strongly influenced by the support of high-ranking females (Chapais 1983; Raleigh and McGuire 1989). The males' reliance on female support makes them reluctant to challenge dominant females (Chapais 1983; Keddy 1986).

Female primates also reduce their vulnerability to male aggression by forming long-term, friendly relationships with particular males. For instance, in savanna baboons, each female forms long-term relationships or "friendships" (Smuts 1985) with one or two particular adult males (Altmann 1980; Ransom 1981; Seyfarth 1978; Smuts 1985; Strum 1987). Males protect their female friends and those females' infants against aggression by other troop members, including other males, and a female's bond with one or two particular males reduces the amount of harassment she receives from other males. The female, in turn, often shows marked preferences for mating with her friends (Smuts 1985).

These examples indicate that, far from being helpless victims of male control, female primates typically have several means of resisting males and asserting their own interests. The advantage males gain (in most species) through their larger size is countered by the fact that females cooperate against males, whereas males seldom cooperate against females (see below for important exceptions). It is also balanced by the female tendency to form long-term bonds with particular males who help to protect them, and by "king-making" power, which constrains male use of force against them. Note that all of these ways in which females resist or prevent male coercion involve supportive social relationships—sometimes with other females, sometimes with males, and sometimes with both.

We will return to the issue of female resistance to male coercion below in a discussion of cross-cultural diversity. I wish first, however, to examine how male sexual coercion in our closest primate relatives, the apes, influences their social systems. This discussion will set the stage for a consideration of the role of male sexual coercion in human social evolution.

Male Sexual Coercion in Apes: Effects on the Social System

As discussed above, male orangutans and chimpanzees show considerable aggression toward potential mates. In addition, male chimpanzees attack strange females from neighboring communities. Young, sexually cycling, nulliparous female chimpanzees typically transfer, either temporarily or permanently, to neighboring communities; while there, they mate with community males (Goodall 1986; Nishida 1979; Nishida and Hiraiwa-Hasegawa 1985; Pusey 1979). Males welcome these females and sometimes even protect them from hostility by resident females. In dramatic contrast, when chimpanzee males encounter mature, anestrous females (i.e., lactating mothers) from another community, they typically respond with intense, sometimes lethal aggression (Bygott 1972; Goodall 1986; Goodall et al. 1979; Nishida and Hiraiwa-

Hasegawa 1985). These attacks often inflict severe injuries and sometimes result in the death of the mother or her infant. Goodall (1986) speculates that if the death of a female's mother makes the daughter more likely to leave her natal group, then lethal attacks on mothers may facilitate recruitment of their adolescent daughters to the attacker's group. If she is correct, then these attacks can be viewed as sexual coercion (although in this instance the individual who is the target of violence is not the males' potential mate, but her mother).

Whatever the reason for the brutal attacks on strange females, they clearly occur regularly and thus constitute an important selection pressure influencing the behavior of female chimpanzees. Female chimpanzees forage, often on their own with dependent young, in dispersed, but overlapping, home ranges. Males range more widely and cooperate in the defense of a community range that encompasses the ranges of several females. As adults, and often after transferring from their natal communities, female chimpanzees become clearly identified with a particular community, i.e., with a particular group of males (Goodall 1986; Nishida and Hiraiwa-Hasegawa 1987). Although female dispersion is probably a product of feeding competition (Wrangham 1975, 1979), the fact that females "belong" to a particular male community, rather than range and associate freely regardless of community boundaries, is probably a response to violence by males from neighboring communities. This conclusion is supported by observations indicating that infants of lactating females with ambiguous community identity are especially vulnerable to infanticide by males (Kawanaka 1981; Nishida 1990; Nishida and Kawanaka 1985; Nishida et al. 1990).

Less information is available on male aggression against females in gorillas, bonobos, and gibbons compared with orangutans and chimpanzees. The available data suggest, however, that in at least some of these apes, as in chimpanzees, male aggression has influenced not only female behavior but also the form of the social system itself.

The case is clearest for mountain gorillas, which live in family groups with, typically, one breeding "silverback" male and several unrelated females and their young (Stewart and Harcourt 1987). In these apes, almost all infants who lose the protection of a silverback male (in most cases, because he had recently died) are soon killed by other males (Watts 1989). In contrast, infants living in a group with a silverback male are rarely killed (Watts 1989). These observations provide strong support for the hypothesis that infanticide is the selective force responsible for group-living in gorillas (Watts 1983, 1989; Wrangham 1979, 1982, 1987). Because females rely for protection primarily on the silverback male, rather than on other females (Watts 1989), the gorilla social system is based not on bonds between related females but on bonds between

(usually unrelated) females and the adult male(s) in the group (Stewart and Harcourt 1987).

Male sexual coercion, in the form of infanticide, may also explain the monogamous social system of gibbons and siamangs. Van Schaik and Dunbar (1990) evaluate several alternative hypotheses to explain monogamy in large primates in which males do not help to care for infants (including gibbons and siamangs). After testing the predictions of each hypothesis against the available data, they conclude that protection from male infanticide is the best explanation for the evolution of monogamy in gibbons and siamangs. Because direct evidence for gibbon infanticide is thus far lacking, this proposal needs further testing.

The social system of bonobos, or pygmy chimpanzees, is similar in many ways to that of chimpanzees, and, as in chimpanzees, males are slightly larger than females (Nishida and Hiraiwa-Hasegawa 1987). It is therefore surprising to find that male aggression against females is apparently quite rare in this species. We do not know why. One possibility is that the stronger female–female bonds found among bonobos compared with chimpanzees thwart male aggression (Smuts and Smuts 1992). Too little is known about bonobos to give much weight to this hypothesis, however.

In summary, male violence toward females or their young has strongly influenced female choice of associates in chimpanzees and gorillas and possibly in gibbons and bonobos as well. In the fourth great ape, the orangutan, females cannot afford to associate with other adults owing to the costs of feeding competition (Rodman 1984; Wrangham 1979), and they apparently pay a severe price for their solitary habits—frequent forced copulations, which either do not occur, or occur much less often, in the other apes. These conclusions suggest that it is critical to consider how male aggression against females and young may have influenced social evolution in ancestral hominids.

MALE SEXUAL COERCION AND THE EVOLUTION OF HUMAN PAIR BONDS

Pair bonds (long-term, more-or-less exclusive mating relationships) that are embedded within a multimale, multifemale group distinguish humans from all other primates (Alexander and Noonan 1979; Rodseth, Wrangham et al. 1991), and pair bonds have long been considered a critical development in human social evolution (Washburn and Lancaster 1968). Most reconstructions of human evolution have assumed that pair bonds evolved to facilitate the exchange of resources between the sexes (e.g., Lovejoy 1981; McGrew 1981; Tanner 1981; Washburn and

Lancaster 1968; Zihlman 1981), often with a particular emphasis on the need for increased male parental investment in the form of meat (Foley 1989; Galdikas and Teleki 1981; Lancaster and Lancaster 1983; Lovejoy 1981). These scenarios assume that females benefited from pair bonds because they gained meat from males. Given the importance of male sexual coercion among nonhuman primates, and especially among our closest living relatives (chimpanzees, gorillas, and orangutans), however, we should carefully consider the alternative hypothesis that pair bonds benefited females initially because of the protection mates provided against other males (including protection from infanticide; Alexander and Noonan 1979; Smuts 1985; van Schaik and Dunbar 1990). Consider the following hypothetical scenario.

Based on our knowledge of the significance of male–male alliances in modern humans, we know that at some point during hominid evolution, male cooperation became increasingly important. This trend may have occurred in response to increased intergroup competition (Alexander and Noonan 1979) or because of the need to cooperate during hunting and in intragroup competition for power, resources, and mates. Nonhuman primate studies demonstrate that cooperation between allied males is facilitated when the most dominant males tolerate some mating activity by their lower-ranking allies. This toleration is a clear pattern among male coalition partners in chimpanzees (de Waal 1982; Goodall 1986; Nishida 1983), hamadryas baboons (Abegglen 1984; Kummer 1968; Kummer et al. 1974; Sigg et al. 1982), and savanna baboons (Smuts 1985). I suggest that, among hominids, the kind of tolerance we see among male allies in nonhuman primates became formalized as each male began to develop a long-term mating association with a particular female or females (a trend foreshadowed in savanna baboons). This tolerance does not imply an absence of male mating competition within the group, since some males would undoubtedly continue to have larger numbers of mates than others (as is true among humans today). Even low-ranking males might obtain significant mating privileges, however, if their support was sufficiently important to high-ranking males during intragroup or intergroup competition.

Truly exclusive mating relationships would not evolve unless they also benefited females, and it is in this context that male sexual coercion becomes relevant. I assume that, as among many nonhuman primates that live in multimale, multifemale groups, hominid females were vulnerable to sexual coercion, including infanticide by males. Among chimpanzees, males of all ranks attack females, but protection of females against other males involves mainly the alpha male, since lower-ranking males hesitate to direct aggression up the hierarchy (de Waal 1982; Goodall 1986). This pattern was likely to change once males began to

claim particular females as mates and to respect the mating relationships of their allies. Respect for an ally's mating relationship would include inhibition against attacking his mate and his mate's offspring, particularly when the ally was present. Similarly, as males attempted to develop long-term relationships with particular females, they would be likely to protect those females and the females' offspring against aggression by other males.

Once males began to respect the mating privileges of their allies and to offer protection to their long-term female associates, a female who pursued a promiscuous strategy would become increasingly vulnerable to sexual coercion and infanticide, for two reasons.[1] First, she would not have one particular male associate who was prepared to defend her against other males. Second, the "respect" that served to inhibit male aggression against their allies' mates (and allies' mates' children) would not apply to her. Thus, she and her offspring would be attacked more often and protected less often. The implication is that, once males benefited from more-or-less exclusive mating bonds with particular females, females would find noncompliance with male demands for these relationships to be very costly, just as female chimpanzees find resistance to male consort overtures costly. The benefits to females of maintaining a promiscuous mating pattern would have to be quite large to compensate for these costs. In other words, as male efforts to establish pair bonds increased, females were forced to reduce promiscuous mating in exchange for male protection from harassment by other males. At the same time, females probably became more vulnerable to aggression from their mates, because other males would be less likely to interfere owing to the costs of disrupting male–male alliances. Viewed in this light, human pair bonds, and therefore human marriage, can be considered a means by which cooperating males agree about mating rights, respect (at least in principle) one another's "possession" of particular females, protect their mates and their mates' children from aggression by other men, and gain rights to coerce their own females with reduced interference by other men.

This scenario is, of course, speculative, as are all attempts to reconstruct human social evolution. It can never be proven correct; its value lies in its advantages as a heuristic device. One advantage is its focus on conflicts between spouses, an important aspect of marriage that is typically ignored when these relationships are approached from the perspective of more traditional, "economic" models of human pair-bonding. A second advantage is the way in which the "male coercion scenario" can integrate several important aspects of human sociality within a single theoretical framework. Consider, for example, the fact that, in a wide variety of societies, women are particularly vulnerable to

male violence, including abduction, rape, and infanticide, when they lack the protection of a mate (e.g., Bailey and Aunger 1989; Chagnon 1983; Hill and Kaplan 1988; Murphy and Murphy 1985). The special vulnerability of "unattached" women is dramatically illustrated by Biocca's account of a Brazilian woman kidnapped by the Yanomamos (Biocca 1968, cited in Mathieu 1989). When men from another village tried to rape the kidnapped woman, no Yanomamo male would protect her because she was not yet married to one of them. Similarly, the Mundurucus recite a myth in which a woman said to "have no owner" is gang raped (Murphy and Murphy 1985:133). In the same vein, among the Azandes, rape of an unmarried woman is not treated seriously, but if she is married, the husband has the right to kill the rapist (Sanday 1981). Hill and Kaplan (1988) report that survivorship among Ache children whose fathers have died or deserted the mother is significantly lower than that of other children, primarily owing to homicide by other men. Consistent with this evidence, many societies emphasize the importance of protection of women by male kin and husbands from aggression by other men (e.g., Irons 1983; Lewis 1990). Among Awlad'Ali Bedouins, for example, women are commonly referred to as *wliyya*, which means "under the protection" (Abu-Lughod 1986:80–81). Also consistent with the male coercion scenario is that fact that most human societies sanction male aggression against their wives in response to suspected or actual adultery, and the fact that this type of aggression appears to be very common (e.g., Counts et al. 1991; Daly and Wilson 1988; Levinson 1989).

A third advantage of the coercion hypothesis is that, in contrast to hypotheses that focus on the division of labor between men and women, it invokes selection pressures common to other animals and thereby facilitates comparisons between human and nonhuman social relations. For example, like orangutan chimpanzee females, women traveling alone are extremely vulnerable to assault by males. Like savanna baboon females, women develop special relationships with particular males who offer them protection against other males. Like hamadryas or gorilla females, in exchange for this protection women are generally expected to mate more-or-less exclusively with their protector. And like rhesus monkey females, women are often subject to severe aggression when caught courting, or copulating, with other males. Thus humans combine many of the different aspects of sexual coercion and female counterstrategies found in other primates.

These similarities offer the possibility of employing the comparative method to investigate aspects of human female–male relationships, including variation in the frequency and intensity of male aggression against females. Below, I use comparative evidence from nonhuman

primates to generate several hypotheses concerning factors responsible for variation in male aggression against women, and particularly variation in women's vulnerability to wife beating, which is better documented than other forms of male aggression against women (Counts 1990b; Counts et al. 1991). Since the majority of wife beatings reflect the husband's attempts to discourage wifely infidelity (Counts et al. 1991; Daly and Wilson 1988), I will often be dealing with instances of male sexual coercion, as defined above. It is important to emphasize that I use ethnographic examples to illustrate, not to test, the hypotheses developed below. Formal evaluation of these hypotheses remains a task for the future.

MALE AGGRESSION TOWARD WOMEN: SOURCES OF VARIATION

Hypothesis 1: Male aggression toward women is more common when female alliances are weak

As indicated above, in many Old World monkeys, females remain in their natal groups their whole lives and ally with related females to chase and attack aggressive males. In contrast, among apes, in which females disperse from their natal kin, females rarely form coalitions with other females to inhibit male aggression. Human females tend to follow the ape pattern, both in terms of dispersal from kin (see below) and in terms of the weak tendency to form female coalitions against men (Begler 1978; Rodseth, Smuts et al. 1991; Rodseth, Wrangham et al. 1991). Yet in spite of this general pattern, much variation exists across cultures in the degree of female cooperation against males. At one extreme are some patrilocal societies, in which women's ties with natal kin are virtually severed after marriage and young married women live as strangers in a household ruled by the authority of their husband's male kin (Lamphere 1974). In these societies, in which the wife is viewed as a competitor by her female affines, the husband's female kin not only fail to support the wife against male coercive control, they often actively encourage it (e.g., Gallin 1991; Lateef 1990; Wolf 1974). Similarly, in polygynous societies that do not practice sororal polygyny, conflicts of interest between cowives often preclude the development of strong cooperative relationships among them (Lamphere 1974).

At the other extreme are societies in which bonds among maternal female kin remain strong throughout life, such as the Navajo (Lamphere 1974). Kerns (1991) provides a striking example of the significance of these female bonds in the reduction of male aggressive coercion of

women. In the black Carib community in Belize that she studied, married women typically reside near their mothers, and if a husband beats his wife, neighbors immediately alert her mother. The mother's arrival on the scene, combined with the shaming gaze of other female witnesses, is usually sufficient to stop the beating. Interestingly, in this community even unrelated women will help one another because, they say, "we're all women and it could happen to any of us." Women clearly recognize the importance of alliances with female kin, and they point out that women who live away from their mothers are more vulnerable to abuse. Some other societies in which related women cooperate to inhibit male aggression include the Wape (Mitchell 1990), Nagovisi (Nash 1990), Mundurucu (Murphy and Murphy 1985), and !Kung (Draper 1991).

Even in the absence of strong bonds between related women, situations that foster female cooperation may lead to coalitions against males. In a cross-cultural statistical analysis of factors associated with wife beating, Levinson (1989) reports that the existence of female work groups was significantly associated with reduced frequency of wife beating because, according to Levinson, these groups afford women both social support and economic independence from their husbands. This finding calls to mind Wolf's (1974) evidence indicating that cooperation among Taiwanese women who formed informal women's circles could inhibit mistreatment of wives even in this extremely patriarchal society.

Hypothesis 2: Wife beating is more common when females lack support from natal kin

Among nonhuman primates, females in female-bonded monkey groups receive aid against male aggression not only from female kin but also from brothers and sons (prior to the males' dispersal to other groups) and older males (who may be their fathers) with whom they have long-term, affiliative relationships (e.g., Kaplan 1977; Smuts 1985). In contrast, among apes and other nonhuman primates in which females leave their natal groups, few or no kin are available to intervene on their behalf when they are attacked by males (Smuts and Smuts 1992).

Among humans, also, availability of support from kin may be an important factor influencing female vulnerability to male aggression, particularly wife beating. As an initial hypothesis, we might predict that, as in nonhuman primates, residence patterns will determine availability of kin support, and that wife beating will therefore be more common in patrilocal societies than in matrilocal ones. Levinson's (1989)

cross-cultural analysis, however, shows that patrilocal vs. matrilocal residence does not have a significant effect on the frequency of wife beating. There are at least three possible reasons for the failure to find a significant relationship. First, residence patterns do not provide a sufficiently fine-grained indication of the proximity of kin; women in patrilocal societies may be only a few hours' travel from kin, or they may be separated by several days' travel (Brown 1991; Counts 1990b; Murdock 1949). Second, among humans, individuals can maintain ties with kin even when they do not live near one another, so proximity to kin does not predict patterns of cooperative relationships to the extent that it does in nonhuman primates (Rodseth, Smuts et al. 1991; Rodseth, Wrangham et al. 1991). Third, extensive cross-cultural variation exists in the willingness of nearby kin to intervene to protect a woman from wife beating. For example, in Oceania, among indigenous Fijians (Aucoin 1990) and Palauans (Nero 1990), a woman's kin readily offer her sanctuary from an abusive husband, but among Indo-Fijians (Lateef 1990) and in Kaliai, Papua New Guinea (Counts 1990a), the woman's family is reluctant to take her in, supposedly because of the additional economic burden she inflicts.[2] Thus, the hypothesis should be modified to predict reduced wife-beating when a woman's kin are both willing and able to protect her from her husband's attacks. Campbell (1991), for example, describes two patriarchal Muslim cultures, the Mayottes and an Iranian group. Among the Mayottes a woman's kin intervene to protect her and wife beating is rare, whereas in Iran her kin do not intervene and wife beating is common. Thus, to explain variation in the frequency of wife beating, we need to examine not only whether a woman's kin are close enough to help her, but why nearby kin help more in some societies than in others. Since aid by male kin to protect a daughter or sister against her husband involves conflict between men, the nature of male–male relationships is one potential source of variation in the willingness of male kin to intervene.

Hypothesis 3: **Male aggression toward women is more common when male alliances are particularly important and well-developed**

In humans, the relative weakness of female coalitions is paralleled by unusually strong male coalitions (Rodseth, Wrangham et al. 1991). Male reliance on alliances with other males in competition for status, resources, and females is a universal feature of human societies (Flinn and Low 1986; Foley 1989; Rodseth, Smuts et al. 1991; Rodseth, Wrangham et al. 1991). There can be no doubt that men benefit reproductively from bonds with other men, including alliances used in both intra- and

intergroup competition. On the other hand, men also benefit from bonds with women, including bonds with female kin and with wives. I will consider each in turn.

Female kin may contribute to a man's reproductive success directly, through cooperative relationships (e.g., Ortner 1981), and indirectly, through increments to his inclusive fitness. For men, maintaining bonds with male allies, on the one hand, and protecting related women, on the other, may often represent conflicting goals. If a man's daughter or sister is being beaten by one of his friends, should he defend her or ignore the beating and maintain good relations with his friend? The ethnographic record indicates that societies may vary systematically in this regard.

Consider, for example, the findings of Begler (1978), who analyzed the outcomes of male–female disputes (specifically, who came to whose aid) in a variety of societies. Among Australian aborigines, although people claimed that a woman's kin would come to her aid if she were beaten, this assistance was never provided in any of the descriptions of disputes Begler found in the literature. In other cultures, such as the !Kung San and Mbuti, men appear to be more willing to side with their female kin or wives in disputes, and this willingness to intervene is associated with less frequent wife beating in these societies (Begler 1978; Draper 1991). Other societies fall somewhere in between. The Efe of the Ituri forest provide an example: according to Bailey (1989), when men and women fight, usually bystanders do not go to the aid of either party; they simply remove spears and knives from the vicinity and let the couple fight it out.

Why are men in some societies, such as those mentioned above, reluctant to intervene to protect female kin? Meggitt claims that, in the Australian aborigine group he studied, men fail to support female kin because "most men are more concerned to maintain male solidarity than to redress the wrongs done to women" (Meggitt 1962:92, cited in Begler 1978). This claim is further supported by two additional findings from Begler's analysis of Australian aborigine disputes. First, men consistently sided with the losing party in a fight between two men in order to prevent injury to the weaker party, which indicates an emphasis on preserving balanced relations among men. Second, Begler describes numerous cases in which a man who was confronted by a dispute over a woman between two men, both of whom were his allies, attacked the woman rather than taking sides. This situation sometimes resulted in injury or death of the woman, leading one ethnographer to conclude that "male opinion regarded it as better to attack a woman, and perhaps cause her death, than allow men to fight over her. In general, men were

reluctant to support female interest against male interest" (Hiatt 1965:140, cited in Begler 1978).

These examples suggest that when male alliances are particularly important, men may be less likely to support female kin who are victims of wife beating. Gregor's (1990) analysis of gang rape among the Mehinakus, a South American tribe, suggests a similar trade-off. He claims that the custom of punishing by gang rape those women who have viewed the men's sacred flutes "expresses men's loyalties to one another, and their willingness to betray the ties of affection, kinship, and economic dependence that link them to the women" (Gregor 1990:493). When men do support female kin against aggression by other men, the price may be high, as illustrated by Chagnon's example of how one man's rescue of his sister from an abusive husband provoked severe fighting among Yanomamo men from the same village (Chagnon 1983:174).

Just as men face trade-offs involving bonds with female kin vs. bonds with other men, they may face similar trade-offs involving bonds with wives vs. bonds with other men. Across cultures, much variation exists in the degree of cooperation and emotional intimacy found between husbands and wives (Irons 1979, 1983; Whiting and Whiting 1975). Whiting and Whiting (1975) describe two types of societies, ones in which the marital relationship is "intimate" and ones in which it is "aloof." The Aka of Africa are a good example of a society characterized by marital intimacy: women and men are usually monogamous, men are involved in child care, and mates work, eat, and sleep together (Hewlett 1991). In contrast, the marital relationship among the Rwala Bedouins is aloof: polygyny is common, men have little interaction with their children, and mates work, eat, and sleep apart (Musil 1928, cited in Katz and Konner 1981). In their statistical analysis of features associated with these two types of marital relationships, the Whitings found that aloof relationships were positively associated with a tendency for men to spend most of their time with other men, apart from women; with the formation of fraternal interest groups (i.e., strong bonds among cohorts of related men; Otterbein 1970); and with the glorification of male attributes associated with effective warriors (Whiting and Whiting 1975:194). These findings suggest two conclusions:

1. Men face a trade-off between the development of bonds with wives and the development of bonds with other men; in other words, the elaboration of strong marital bonds interferes with the development of effective male alliances, and vice-versa (cf. Irons 1979, 1983). This tension between male–female and male–male bonds is evident in such

cultures as the Awlad'Ali Bedouins, where open display of affection toward a wife results in ridicule by a man's allies (Abu-Lughod 1986).

2. The trade-off between male–female and male–male bonds will depend, at least in part, on the importance of male alliances in intergroup warfare. When these alliances are critical, men apparently sacrifice the benefits of developing affiliative bonds with their wives in order to maximize the benefits of male cooperation. In contrast, we may speculate that under other conditions, including perhaps lower rates of intergroup conflict and particular types of subsistence strategies, men benefit relatively more from development of affiliative bonds with women.

Since affiliation cannot be compelled, but must be earned through providing benefits and inhibiting costs, I hypothesize that men will be less likely to beat their wives in societies in which marital bonds are emphasized and will be more likely to beat their wives in societies in which these bonds are sacrificed in favor of male alliances. Whiting and Whiting (1975) found no relationship between the frequency of wife beating and whether husbands and wives sleep together or apart (their measure of marital intimacy). However, sleeping patterns provide at best an indirect measure of marital intimacy, and more direct measures are required to test this hypothesis. In addition, it is probably important to scale marital intimacy as a continuous, rather than a dichotomous, variable. Examples of societies characterized by high husband–wife intimacy and very low rates of wife beating include the Aka (Hewlett 1991), the !Kung San (Draper 1991), and the Wape of New Guinea (Mitchell 1990).[3]

It is also important to consider the effect of male alliances on other forms of male aggression toward women, such as rape. Otterbein (1979) reports a statistically significant, positive cross-cultural association between the frequency of rape and the existence of fraternal interest groups. In many instances, however, the rapes apparently involved women from enemy groups. Thus, the correlation between fraternal interest groups and rape may simply reflect the fact that both of these variables are associated with warfare. Within groups, the relationship between strong male alliances and rape may be quite complex. On the one hand, "gangs" of young men are notoriously dangerous to women, both in traditional societies (e.g., New Guinea highlands; Gelber 1986) and in industrial societies (e.g., fraternity gang rape; Sanday 1990). On the other hand, male alliances may also be a particularly effective means of protecting women from aggression, including rape, by men from other groups or by bachelors from within the group (Irons 1983). Among the Efe of the Ituri forest, for example, Bailey and Aunger (1989) report that male allies from the same patriclan escort women between camps

and villages with bows and arrows in hand in order to defend them from harassment or capture by males from other clans.

Reliance on this type of protection entails costs as well as benefits for women. First, men may use their alliances with other men to prevent actions that may benefit the women, but at a cost to the men. The Efe society again provides a good example: Bailey (1988:62) reports that when an Efe woman leaves her group to live in a village with a Bantu man (which represents an increase in status and resources for the woman), her clansmen cooperate to "rescue" her from the village and return her to her own people. Second, because protection of women by groups of allied men is often conditional on the woman's conformance to cultural ideals of proper female behavior, it is used to control women as well as to protect them. Examples include such societies as the Mundurucu and Mehinaku of South America, in which women who choose to travel alone relinquish all rights to retaliation if they are sexually assaulted (Gregor 1990; Murphy and Murphy 1985). Similarly, in the United States today, rape is less likely to be punished by the male-dominated legal system if the victim dresses in ways considered provocative or if she has a history of sexual activity (Estrich 1987). Finally, as argued above, marriage itself can be considered a means by which cooperating males agree about mating rights. In virtually all the world's cultures, mating rights entail not only the exclusion of other men from sexual access to a man's wife—a means of protecting women from rape by other men—but also the husband's right to have sex with his wife regardless of her consent—a means of legitimizing rape by the husband (Finkelhor and Yllo 1985). Thus male alliances provide women with important benefits but at the same time inflict significant costs. How and why the ratio of these costs and benefits varies across societies is an important question for future research.

Hypothesis 4: **Female vulnerability to wife beating will generally increase as male relationships become less egalitarian**

Across cultures, men (and other kin) appear particularly reluctant to intervene on behalf of a female relative when the cause of a husband–wife dispute is the woman's infidelity (or suspected infidelity; Abu-Lughod 1986; Aucoin 1990; Counts 1991; Lateef 1990; Lewis 1990; Miller 1991). In many societies, men (at least in their public actions) condemn adulterous behavior by all women, including their female kin. Yet in other societies, although men may be considerably distressed by their own wives' adultery, male aggression in response to female adultery is not considered legitimate, and men protect their female kin from wife beating (e.g., !Kung San; Draper 1991). To understand this cross-cultural

variation, we need to examine the complex dilemma that men face in responding to adulterous activity by women.

From an evolutionary perspective, the ideal situation for each man is to prevent adultery by his own wife or wives while he pursues adulterous relations with other men's wives. With the exception of extreme despots (Betzig 1986), however, a man can neither successfully enact nor publicly espouse this strategy because it directly conflicts with the strategies of other men, including his allies. Men must therefore compromise their ideal strategies. One common compromise seems to involve overt support for sanctions against female adultery combined with varying degrees of covert circumvention of those sanctions. One important manifestation of overt support for sanctions against female adultery is a man's willingness to allow his own female kin to be beaten by another man for sexual transgressions, including adultery.

Cooperating with other men to enforce sanctions against female adultery also involves trade-offs. On the one hand, through cooperation, a man can often reduce his own vulnerability to cuckoldry. On the other hand, when a man cooperates with other men in this way, he also typically reduces his opportunities to gain additional offspring through adulterous matings. The ratio between these costs and benefits should vary, in turn, depending on two related factors:

1. *The degree of political inequality among men.* Collier and Rosaldo (1981) contrast two basic types of male relationships in traditional societies. In some societies, few opportunities exist for some men to accumulate political power and resources at the expense of other men, and egalitarian relationships prevail among men (e.g., Draper 1991). Under these conditions, no man can consistently manipulate and control the behavior of other men. In contrast, in other societies, some men can accumulate political power and resources at the expense of other men and can use these sources of power to impose their will on others. In these societies, men exhibit nonegalitarian relationships (Collier and Rosaldo 1981).

The degree of equality among men should influence the trade-offs men face in their attempts to control female adultery. When relationships among men are nonegalitarian, powerful men can use their alliances with one another to manipulate the system to their own advantage. Specifically, they can enforce sanctions against others' adulterous behavior and guard their own mates while they simultaneously gain access to the mates of lower-status men (e.g., Betzig 1986). Men in power can thus increase the benefits of controlling female sexuality while they decrease the costs of reduced mating opportunities. In contrast, when male relationships are highly egalitarian, the costs and

benefits of male cooperation to control female sexuality fall on all men roughly equally, so men should be less motivated to create and enforce sanctions against female adultery.

2. *The degree of variation in the ability of different men to invest in their offspring.* Differences in male ability to invest in offspring will tend to vary directly with differences in male power. At one extreme we can imagine a society in which all men have similar abilities to invest in offspring. Under these conditions, the loss of an offspring through cuckoldry would be balanced by the gain of an offspring through adultery, and men would be less motivated to cooperate with one another to prevent female adultery.[4] At the other extreme, imagine a society in which some men can invest much more in offspring than others. Under these conditions, men with the greatest ability to invest (i.e., high-status men) should be particularly concerned with protecting themselves from cuckoldry and will therefore cooperate to support sanctions against adultery by their own women (cf. Dickemann 1981).

Several predictions follow from these theoretical considerations. In societies in which relationships between men are fairly egalitarian and in which individual differences in male ability to provide parental investment are slight, men will gain less from cooperating to promote sanctions against female adultery, will tend to rely more on individual tactics to prevent cuckoldry, and will tend to support their female kin in disputes with their husbands. As a result women will have more sexual freedom and be less vulnerable to wife beating. The !Kung San provide a good example (Draper 1991; Shostak 1981).

In contrast, in societies characterized by individual differences both in male power and in male ability to invest in young, powerful men will promote sanctions against female adultery among their women and will not support female relatives in conflicts with their husbands over female adultery (except, perhaps, in those unusual cases in which female relatives marry lower-status men). Thus, the sexuality of high-status women will be rigidly controlled (Dickemann 1981), and they will be vulnerable to wife beating (e.g., Lateef 1990).[5] At the same time, women of low status will be victims of sexual coercion and exploitation by high-status men (e.g., Betzig 1986, 1991). In these societies, even low-status men may support sanctions against female adultery because of the benefits associated with mimicry of elite cultural ideals.

In societies at the extreme of this end of the continuum, often characterized as "honor and shame societies," high-status men not only refuse to protect their female kin from wife beating in response to adultery but actually beat, or even kill, their own female kin for this transgression (Campbell 1964; Lateef 1990; Peristiany 1966). This act benefits the wom-

en's kin in two ways. First, it demonstrates the family's commitment to the code of female chastity and fidelity, which protects their ability to obtain husbands for their women in the future. Second, it prevents the need for punishment of the wayward woman by her husband's family, which would result in interfamily feuding and the disruption of valuable marital alliances.

I therefore hypothesize that egalitarian relationships among men (as defined above) are likely to be associated with relatively tolerant attitudes toward female sexuality, including a tendency for male kin to protect women from being beaten by their husbands for sexual offenses, whereas hierarchical relationships among men are likely to be associated with rigid control of female sexuality, including a tendency for men to refuse to support female kin who have committed sexual infractions. In short, as male relationships become increasingly egalitarian, women gain both increased sexual freedom and reduced vulnerability to spousal aggression (Draper 1991).

Hypothesis 5: Women will be more vulnerable to male aggression as male control of resources increases

In nonhuman primates, females rely on their own efforts to obtain food and do not depend on males for any material resources (other than, in a few species, very occasional food-sharing). In human societies, in contrast, women typically depend on men for at least some critical resources. Both evolutionary theorists and cultural anthropologists often emphasize the cooperative nature of the division of labor in humans: women gather and men hunt; men plow the fields and women harvest the food. What these accounts ignore is the widespread existence of sexual asymmetries in the control of resources, including food, land, money, tools, and weapons, that allow men to use resources as a means of controlling women (e.g., Burgess and Draper 1989; Sacks 1975; Tabet 1982). Once women become dependent on men for resources, their vulnerability to male coercive control increases for two reasons. First, as discussed above, the more resources men invest in their mates and their mates' children, the more important it is for men to ensure paternity certainty; this situation in turn increases their motivation to control female sexuality (Dickemann 1981), which may include the use of coercive methods (e.g., Lateef 1990). Second, as women's dependence on men for resources increases, the alternatives to remaining with a coercive mate decline, reducing the woman's power to negotiate the terms of the relationship (e.g., Irons 1983; Lateef 1990; Counts 1991).[6]

Lateef (1990) provides a particularly vivid example of the interaction between male aggression toward women and female economic depen-

dence on men. The Indo-Fijian society that she studied shares many characteristics of the northern Indian Hindu society from which it stems, including patrilocal residence, patrilineal inheritance, and patriarchal rule by senior males. The vast majority of her female informants had experienced or had been threatened with male violence, either by male kin or by husbands, and "violence pervades the lives of young women" (Lateef 1990:48). Because of restrictions related to purdah, women are generally unable to work outside the home and are entirely dependent on their husbands for economic support. The woman's parents often depend on sons for support, and brothers are hard-pressed to provide additional economic support for sisters who might flee their husbands because of abuse. Thus, if a woman does leave her husband, she often ends up on welfare; in fact, a much larger proportion of Indo-Fijian women are on welfare compared to ethnic Fijian women, who can gain support from their families in the event of marital disputes. According to Lateef (1990:60), many women faced with the task of trying to raise children without male economic support choose to remain in violent marriages. Her account reminds me of an Indian woman I knew in East Africa. This young woman had been severely beaten by her husband. Finally, her family took her back, but in order to earn her keep she had to work 12 hours a day in the family-owned store. When not working, she was restricted to the family compound. Because the failure of her marriage was shaming to her and her family, she could never marry again. She had nothing to look forward to but endless years of drudgery living in an extremely circumscribed world. With tears in her eyes, she described her existence as "a living death." When a similar fate confronts wives who leave their husbands, it is not surprising that many of them remain with their husbands in spite of the beatings they may suffer.

Cross-cultural analyses generally support the hypothesis that male control of resources makes women more vulnerable to male aggression. Schlegel and Barry (1986), for example, report a statistically significant cross-cultural association between reduced female contribution to subsistence and increased frequency of rape. Women's contribution to subsistence is unlikely to be the best measure of male control of resources, however, since women may work very hard but still not control the fruits of their labors (Friedl 1975). Levinson (1989) reports a more germane result: across cultures, a statistically significant positive association exists between the degree of male control over the products of family labor and the frequency of wife-beating.

This relationship between male control of resources and the frequency of wife beating does not necessarily hold, however, in industrial societies or societies undergoing modernization. In the United States, for

example, the relationship between the frequency of wife beating and the wife's economic dependence on her husband is curvilinear; beatings are most frequent when women are very dependent, less common when female economic dependence is intermediate, and again frequent when female economic dependence is minimal (Levinson 1989). Similarly, in traditional societies undergoing rapid economic change, including expansion of women into the labor market, increased female economic autonomy is sometimes associated with increased wife beating (Counts 1991; Miller 1991; Nero 1990). The evidence suggests that, when economic dependence on men decreases, women are more likely to defy male attempts to control them, and some men may respond by resorting to violence. This finding cautions us against the naive hope that changes in a single variable will reduce women's vulnerability to male aggression. Rather, we must consider how numerous variables, including the ones suggested here, interact to increase or decrease the frequency of male aggression against women.

DISCUSSION

The evidence reviewed above suggests that, far from being an immutable feature of human nature, male aggression toward women varies dramatically depending on circumstances. In particular, I have hypothesized that male use of aggression against women will reflect varying costs and benefits of different male reproductive strategies and female counterstrategies, such as mustering support from relatives or leaving a violent relationship. Below, I briefly discuss some of the implications of a strategic view of male aggression against women and indicate possible directions for future research.

Gender Ideology

Cultural anthropologists have provided ample documentation of the ways in which gender ideology—cultural beliefs about the nature of men and women and proper sex-typed behavior—both reflects and helps to sustain particular types of male–female relationships (e.g., Abu-Lughod 1986; Gregor 1990; Llewelyn-Davis 1981). Gender ideology supports male aggression against women in myriad ways. For example, as indicated earlier, many, perhaps most, of the world's cultures subscribe to the belief that a husband (but not a wife) has the right, indeed often even the duty, to beat a spouse who commits or is suspected of commit-

ting adultery (see Daly and Wilson 1988 and Counts et al. 1991). Another example involves the belief that a woman who ventures out on her own is looking for sexual adventure and is therefore fair game for sexual assault by any man (e.g., Lewis 1990; Murphy and Murphy 1985). These and similar strongly held beliefs reflect cultural legitimization of a man's right, under certain conditions, to beat or rape a woman with impunity, and they undoubtedly influence individual behavior. If, for example, a woman believes that she deserves to be beaten or raped because of her actions, or if she at least thinks that everyone else believes it, she will almost certainly be less likely to perform those actions; similarly, a man who shares these beliefs will be more likely to act coercively.

From an evolutionary perspective, these cultural beliefs are hypothesized to be products of individual strategic behavior. In other words, they can be viewed as reflections of the reproductive interests of the most powerful individuals in a given society. For example, in a classic article, Ortner (1978) analyzes variation in cultural ideologies related to women and sexuality. She concludes that in pre-state societies, women are generally considered dangerous to men, but in state-level societies, they are said to be in danger from men, which justifies male protection and guardianship. "Before they were polluting, and this had to be defended against, but now they are said to be pure, and to need defending" (Ortner 1978:26). Ortner is puzzled as to why this shift in ideology should occur. An evolutionary perspective, including the preceding discussion of how variation in male–male relationships influences male reproductive strategies, suggests a possible answer.

In many pre-state societies, in which relationships between men tend to be more egalitarian than in state societies, men often face opportunities to have sex with one another's wives (see above). Women as sexual beings are therefore sources of danger to men in two respects. First, if the woman is his wife, the man is vulnerable to cuckoldry. Second, if the woman is someone else's wife, the temptation to adultery threatens a man's own well-being, because of potential retaliation, and also threatens male solidarity, by creating a source of conflict between men. Thus, it is not surprising that, in these societies, women are often portrayed as dangerous and polluting, and it is their sexuality that makes them so.[7] By portraying women in this way, men blame women for male sexual exploits and direct attention away from the real source of danger—the underlying sexual competition between men that continuously threatens male solidarity (Collier and Rosaldo 1981).

In state-level societies, on the other hand, female sexuality is much more rigidly controlled because high-status men (those who presumably contribute the most to the creation and maintenance of cultural ideolo-

gy) effectively protect their women from sexual access by other men (see above and Dickemann 1981). Thus we find an ideology that focuses on women as pure, in danger of being spoiled, and in need of male protection. To go one step beyond Ortner, I suggest that in these societies the notion of women as dangerous and polluting is not eliminated altogether; rather it is now shifted to the low-status women who are vulnerable to sexual exploitation by high-status men—thus the ideology of the virgin and the whore. From a male point of view, the virgin is one's own wife, or daughter, or sister, whereas the whore is the lower-status woman whose sexual availability enables high-status men to enjoy the benefits of promiscuity without incurring the costs. By depicting these women as whores, high-status men can attribute their sexual exploits to the women's voracious sexuality, drawing attention away from the coercive tactics they employ to gain access to these women.

In some cases, such as the example just given, "strategic" interpretations of cultural ideology may appear fairly straightforward. In other cases, however, advocates of an evolutionary approach must confront the paradoxical fact that less-powerful people whose interests do not appear to be advanced by particular cultural beliefs nevertheless often seem to share them. For example, not only men, but women too sometimes express the belief that adulterous wives deserve to be beaten (e.g., Aucoin 1990; Counts 1991; Lateef 1990). Among the Awlad'Ali Bedouins of Egypt, "women claim . . . that 'real men' . . . beat their wives when the wives do stupid things," and women want husbands who are dominant men (Abu-Lughod 1986:89).

One possible interpretation of these paradoxical beliefs is provided by Lateef (1990), who argues that Indo-Fijian women benefit by conforming to a male-dominated social system because they have no alternatives to their economic dependence of men. Similarly, among the Awlad'Ali Bedouins, women must rely on husbands for protection. Given this reality, it is no wonder that women prefer as husbands men who demonstrate their protective abilities by maintaining control over their dependents. In other words, women's adoption of cultural values that appear to go against their own interests may in fact be necessary for survival (Mathieu 1990) or for successful reproduction (Dickemann 1981). In addition, when the exigencies of daily life foster female competition for scarce resources, including favors dispensed by men, women may advocate cultural beliefs that allow men to coerce other women (Gallin 1991; Lateef 1990). The existence of reproductive conflicts of interest between women, and how these conflicts may prevent female cooperation and thereby help to maintain male domination, are important topics that require further analysis by evolutionary biologists and feminists alike (Hrdy 1981).

The Role of Male Aggression in Maintaining Dominance over Women

In a recent cross-cultural review of women's status, Mukhopadhyay and Higgins (1988) urge cultural anthropologists to examine the role of male aggression in the maintenance of sociocultural systems of male dominance over women. This task will not be easy because of the difficulty in distinguishing cause from effect: are men able to coerce women because they dominate women in so many other ways, or does male aggression play a central role in establishing dominance over women to begin with? To complicate the analysis further, the answer to this question probably varies from society to society.

These difficulties are apparent in many ethnographic accounts. Lateef (1990), for example, reports that Indo-Fijian women informants claimed that fear of male violence was the reason they complied with constraints on their behavior. However, she also argues that the family ideology, which places women in a subordinate role, is the main mechanism for enforcing male dominance and that male violence plays only a supplementary role (Lateef 1990). Burbank (1991) argues from her Australian aborigine evidence that frequent male aggression does not prevent women from doing what they want and that it does not inevitably promote asymmetries in power between the sexes.

Gregor, in contrast, claims that, in small-scale, technologically simple societies, the "fact that men can overwhelm women in violent encounters is recognized . . . and looms large in gender politics" (Gregor 1990:480). He provides a vivid example from his own fieldwork among the Mehinakus of South America. Among the Mehinakus, as among some other indigenous societies in South America (Murphy and Murphy 1985) and New Guinea (Gelber 1986), men conduct sacred rituals in the men's house, which is segregated from women, and women who violate this space are (in theory, at least) punished by gang rape. According to Gregor, the men rationalize the rape as follows: "The tradition is good, it makes the women afraid of us. . . . They are afraid of the men's penises! So they just stay in the houses" (keeping the women in the houses is a metaphor for keeping them under control and in their place; Gregor 1990:487).[8]

Gregor's conversations with village women indicate that they experience the threat of male violence as pervasive, and they frequently have nightmares in which they are the victims of male aggression. This finding is particularly striking in light of the fact that wife beating is extremely rare in this society, and no gang rapes had apparently occurred for many years. Presumably the threat of gang rape alone was sufficient to make women frightened of men. As a result, according to

Gregor, women are more likely to obey men in other domains. Gregor concludes his analysis of gang rape by saying, "It at once expresses the subordinate status of women and the solidarity of men. . . . It is the sanction by which men as a group keep women as a group from participating in the religious and political systems as equals. . . . It is an overwhelming and supremely effective symbol of gender inequality" (Gregor 1990:492–493).

Clearly, additional empirical evidence is required to determine the extent to which use of male force, or its threat, contributes to male dominance over women in various domains. An evolutionary perspective would tend to support Gregor's contention that male aggression against women functions as an important sanction controlling female behavior, because of the potentially enormous costs to women of physical injury at the hands of men. Note that the males' superior fighting ability is not the ultimate (evolutionary) cause of male dominance over women. As I have argued elsewhere (Smuts 1991), male reproductive striving is the ultimate cause of male dominance over women; men's superior fighting ability is simply one means to this end.

Female Sexuality

Researchers working from an evolutionary perspective have characterized female sexuality as both lower in intensity and less oriented toward sexual variety than male sexuality (e.g., Symons 1979). Symons (1979) argues that these sex differences reflect genetically based differences in female and male psychologies as a result of sexual selection. For example, men are said to be more highly motivated to seek multiple sexual partners because in this way they can father numerous offspring, whereas women are said to be less interested in sexual variety per se because their reproductive success depends less on multiple partners than it does on adequate investment by a single, investing male.

Hrdy (1979, 1981) has challenged some of these characterizations of female sexuality by pointing out that nonhuman primate females are often both highly sexually motivated and highly promiscuous. It is possible that, relative to many nonhuman primate females, human females are less promiscuous and appear to be less sexually motivated in part because of the effects of male aggression on female sexuality.

Anthropological evidence indicates that in a wide variety of societies around the world, the expression of female sexuality evokes negative sanctions, often including physical punishment by husbands or male relatives (Daly and Wilson 1988). Examples include the frequent beating of adulterous wives (see above); the abandonment or killing of girls found not to be virgins at marriage (Lewis 1990); and beatings for

immodest behavior, such as transgressing purdah, revealing too much of the face or ankle, or speaking to or even looking at unrelated men (e.g., Abu-Lughod 1986; Counts 1991; Lateef 1990; Lewis 1990). In a variety of cultures, women have had their genitals cut out or sewn together to discourage sexual activity; their movements curtailed by mutilation of the feet, the threat of rape, and confinement to guarded harems; their noses bitten off in culturally sanctioned responses to adultery; and their bodies beaten and mutilated during gang rapes considered a normal part of adolescent male sexuality (Daly 1978; Dickemann 1981; Gelber 1986; Lewis 1990; Murphy and Murphy 1985). Assertive female sexuality leads to abandonment of wives among the Yanomamos and to gang rape among the Mundurucus (Chagnon 1983; Murphy and Murphy 1985). In some cultures, force is considered an integral part of normal marital sex; the man's struggle to overcome a frightened and resistant woman heightens his sexual satisfaction (e.g., Levine 1959; Miller 1991). Because of these and other similar practices, women associate sex with danger.[9]

These and other countless examples of cultural constraints on female sexuality support Rubin's claim that male-dominated systems foster a kind of female sexuality that responds to male needs and desires rather than one that has needs and desires of its own (Rubin 1975:182). In other words, both the objective, observable expression of female sexuality and women's subjective experience of their own sexuality are so influenced by repression and fear of violent coercion that, in most societies, it is impossible to identify the "intrinsic" nature of female sexuality based on female behavior. It seems premature, for example, to attribute the relative lack of female interest in sexual variety to women's biological nature alone in the face of overwhelming evidence that women are consistently beaten for promiscuity and adultery.

An advocate of the traditional sociobiological view of female sexuality might respond that, precisely because sex has been dangerous for women, evolution has favored a reduced female sex drive. Four arguments can be marshalled against this view. First, if female sexuality is muted compared to that of men, then why must men the world over go to extreme lengths to control and contain it? Second, since the extent to which female sexuality is repressed and subject to violent constraints varies tremendously across societies, it would make no sense for women to evolve an inherently muted sexuality. Third, women can gain important reproductive benefits from mating with multiple partners (Hill and Kaplan 1988), a point often ignored in evolutionary analyses (Hrdy 1986). Fourth, evidence from nonhuman primates and from women in societies with relatively few coercive constraints on female sexual behavior, such as the !Kung San or modern Scandinavia, indicate the existence

of an active, assertive female sexuality that is excited by, among other things, sexual variety (Hrdy 1981, 1986; Shostak 1981). I do not call attention to these considerations in order to argue that in the absence of constraints, female sexuality would be just like male sexuality. Rather, my goal is to emphasize the need to investigate how the experience and expression of female sexuality varies, at both psychological and behavioral levels, depending on the extent and nature of the constraining influence of male strategies. Until these investigations provide new evidence, the nature of female sexuality must remain an open question.[10]

Behavioral Flexibility and Evolutionary Analysis

Feminist anthropologists have rightly criticized simplistic biological arguments that explain social relations between men and women, including male dominance over women, as direct and inevitable consequences of genetically determined differences in the physical and psychological natures of the sexes (e.g., Collier and Rosaldo 1981; Quinn 1977). As Bleier (1984) has eloquently argued, these explanations remove gender asymmetries in power from the political arena, reducing them to inevitable, if regrettable, manifestations of immutable natural laws that can then be used to rationalize and justify sexual oppression. I have tried to show here that a biological, evolutionary perspective on relations between the sexes does not necessarily depend on deterministic assumptions, nor does it inevitably draw conclusions that support the status quo. On the contrary, my purpose has been to show that a responsible evolutionary analysis is both political and conditional and therefore potentially radical in its implications. Specifically, I have argued that men use aggression to try to control women, and particularly to try to control female sexuality, not because men are inherently aggressive and women inherently submissive, but because men find aggression to be a useful political tool in their struggle to dominate and control women and thereby enhance their reproductive opportunities. I have also argued that male use of aggression as a tool is not inevitable but conditional; that is, under some circumstances coercive control of women pays off, whereas under other circumstances it does not.

What makes the above analysis different from other perspectives that emphasize the conditional nature of male aggression toward women is its emphasis on individual reproductive success as the ultimate goal of both male sexual coercion and female resistance to it. This assumption provides a useful theoretical framework for analyzing the costs and benefits of different courses of action. To the extent that this evolutionary framework proves useful in helping to identify the conditions that

favor male aggression toward women, it can also contribute to the formulation of strategies to alter those conditions.

Conclusion: Future Research Directions

The analyses described above suggest several fruitful directions for future research. First and most fundamentally, to evaluate hypotheses to explain cross-cultural variation in the frequency of male aggression toward women we need quantitative information on actual rates and intensities of wife beating, rape, and other aggressive acts. Collection of this information will require behavioral observations and careful, systematic interviews with reliable informants.

Second, as Begler (1978) advocated some time ago, if we want to understand why men sometimes feel free to use aggression against women and sometimes do not, we must pay attention not only to gender ideology (i.e., what people say people should do) but also to what people actually do, especially in domains in which behavioral outcomes are particularly telling. Begler's accounts of who actually supports whom in disputes between men and women are salient examples of the value of behavioral observations. Anthropologists have argued at great length about the extent to which men dominate women in all human cultures and about whether male domination in particular arenas implies male domination in others (e.g., Mukhopadyay and Higgins 1988; Ortner 1991; Quinn 1977; Whyte 1978). There is only one way to answer these questions: we need behavioral observations that tell us who wins when conflicts of interest arise between the sexes, and why they win.

Third, in order to identify the factors that favor or disfavor male aggression against women, we need information on the costs and benefits—that is, the consequences—of these acts (or the absence of these acts). This information will often be very difficult to obtain; how can we tell, for example, whether a given instance of wife beating decreased the chances that the woman would continue to see her lover? At the very least, it would be useful to gain more information from informants concerning their own perceptions of the consequences of different acts. Only a small minority of the ethnographies that I reviewed include specific accounts of how the people involved were affected by male aggression.

Fourth, I have argued that the form and frequency of male aggression toward women is related to the nature of men's relationships with one another. Many critical questions related to this hypothesis remain unexplored. For example, does the impact of male cooperation on relations between the sexes vary depending on the purposes of that cooperation

(i.e., intergroup competition, intragroup competition, more efficient food procurement)? Does it matter whether or not male alliances involve mainly kin? Are there circumstances under which men simultaneously develop cooperative bonds with other men and intimate, noncoercive relationships with women? I have also argued that the nature of female relationships influences female vulnerability to male aggression. Thus, we need to explore carefully the complex and subtle ways in which different types of relationships influence one another.

Fifth, much more information is needed concerning female resistance to acts of male aggression and female counterstrategies that inhibit or prevent aggression. I am painfully aware that, although this paper focuses on behaviors that affect women, it deals mostly with actions by men, not by women. This reflects in part the difficulty of gleaning information about female strategies from a literature that remains somewhat male-biased. I hope that by emphasizing the prominence of male aggression against women cross-culturally, this paper will help to focus attention on the strategies that women employ to protect themselves from men.

Sixth, although this paper has focused on cross-cultural variation in male aggression against women, it is equally important to investigate variation between individuals within a given society. All of the hypotheses presented here could be modified to help to account for intracultural variation in male aggression against women. For example, within a society, some women threatened by their husbands will receive more support from their kin than others, and these differences could help to explain individual differences in women's vulnerability to wife beating.

Finally, to understand variation in men's and women's tendencies to be perpetrators and victims of intersexual aggression, both across and within societies, it will be critical to consider not only variations in current circumstances but also individual differences in previous experience that may lead people to respond to similar circumstances in different ways. An evolutionary perspective on developmental processes may prove very useful in this regard (e.g., Chisholm 1988; Draper and Harpending 1988; Smuts 1992).

This paper was inspired by the pioneering work of Mildred Dickemann, Sarah Hrdy, and Richard Wrangham, who recognized the costs that male reproductive strategies impose on females. I thank Judith Brown, David Gubernick, Sarah Hrdy, and Patty Gowaty for valuable comments, and Mildred Dickeman, Lars Rodseth, and Robert Smuts for extensive feedback on an early draft. I also thank several contributors to *Sanctions and Sanctuary* (Counts et al., 1991) for sharing their chapters with me in advance of publication. This work was supported in part by National Science Foundation grant BNS-8857969.

Barbara Smuts is Associate Professor of Psychology and Anthropology, Associate Research Scientist at the Center for Human Growth and Development, and member of the Evolution and Human Behavior Program, University of Michigan. She received her B.A. in social anthropology at Harvard and her Ph.D. in biobehavioral sciences at Stanford Medical School. She has studied the behavior of wild chimpanzees, baboons, and bottlenose dolphins and is particularly interested in evolutionary, comparative analyses of female behavior.

NOTES

1. "Promiscuous" is a technical term used by biologists to describe mating behavior involving multiple partners; no connotation of wanton or indiscriminate sex is implied.

2. A fourth possible reason is that Levinson's partilocal sample includes societies with claustration, an alternative to wife beating that is preferred by those who can afford it as a more effective and less damaging means of ensuring wifely fidelity (Mildred Dickemann, personal communication 1991).

3. To complicate the argument further, it seems likely that when a man's most important alliances are those he establishes with affinal kin through exchange of women (e.g., Levi-Strauss 1969), aggression toward wives will be inhibited, at least to some extent, by the desire to maintain these alliances. For example, Aucoin (1990) describes how, among Fijians, a husband who has beaten his wife disrupts relations between exogamous clans. To re-establish good relations, he must perform a ritual act of atonement to the wife and her kin. I suspect that one important factor determining whether strong links among affines inhibit or promote male violence toward wives is the nature of the act that evokes the husband's aggression: if the provocation involves failure to conform to cultural ideals of proper female behavior, especially sexual transgressions, the woman may be blamed for disrupting good relations between affines, and her kin may support the husband's right to beat her (see text). In contrast, if the husband beats the woman for, in the eyes of her kin, "no good reason," then he may be blamed for disrupting affinal relations, and the woman may be supported by her kin (e.g., Abu-Lughod 1986).

4. For the sake of simplicity, this argument assumes that men do not easily discriminate offspring resulting from adulterous unions and thus cannot withdraw parental investment from those offspring. If men can withdraw investment from offspring of these unions, the benefits to men of adultery decrease (because the resulting offspring will suffer from reduced male parental investment), but the costs of being cuckolded also decrease (because men will not suffer the costs of investing in other men's offspring). Without knowing the precise relationship between these benefits and costs, it is impossible to specify how ability to detect cuckoldry will influence male proclivity to support general sanctions against female adultery.

5. This argument converges in important ways with that developed by Dickemann to explain purdah, claustration, and other forms of control of female sexuality in stratified societies (Dickemann 1981). It broadens Dickemann's argument, which focuses on the importance to high-status men of protecting their parental investment, in its emphasis on the trade-offs entailed in male cooperation to control female adultery in different types of societies and the effect of these trade-offs on the male tendency to ally with or against their female kin during spousal disputes over female adultery.

6. This evidence suggests the possibility that male economic provisioning of women and children evolved not only because it increased the fitness of their own offspring (the traditional explanation, which views male provisioning as a form of parental investment), but also because it increased their control over female sexuality (a different explanation, which views male provisioning as a form of mating effort).

7. Ortner (1981) points out that many tribal societies stress male "purity," that is, sexual abstinence, before major undertakings like hunting or raids on other groups. Perhaps this custom has arisen to decrease the risks of sexually motivated conflicts between men prior to events that depend on male cooperation.

8. Among another South American tribe, the Mundurucu, men also state explicitly that they use the penis as a weapon during gang rape (Murphy and Murphy 1985).

9. It is not necessary for a woman to experience male aggression herself in order to become afraid: growing up in a society in which she sees other women subjected to similar acts, or in which she is simply warned repeatedly of the dangers associated with female sexuality, is sufficient to arouse deep-rooted fear Brownmiller 1975; (Gregor 1990; Mathieu 1989; McKee 1991).

10. Symons (1979) disagrees. He cites evidence concerning lesbian sexuality to argue that, in the absence of male influence, female sexuality would be expressed primarily in the context of long-term, monogamous relationships, and that women would show little interest in sexual variety. He suggests that sexual behavior among homosexual men and women provides important insights into the essential nature of male and female sexuality, because, with partners of the same sex, sexual behavior is free from the compromises imposed by the need to respond to the very different and usually conflicting needs of the opposite sex.

Symons's claim that lesbian sexuality reflects female sexuality free from the constraining influence of male interests rests on the implicit assumption that all women need to do to avoid this influence is cease interacting sexually with men. This assumption seems wrong for two reasons. First, lesbians, like all women in male-dominated societies, grow up in a sociocultural context that imposes powerful constraints on the development and expression of their sexuality. These developmental experiences influence female psychology in deeply rooted ways that cannot be erased simply by choosing to avoid sex with men. Second, lesbians remain vulnerable to male sexual coercion. Thus, Symons's analysis, like that of many other evolutionarily minded researchers, is flawed by his failure to acknowledge the systematic domination of women by men and how this domination influences female sexuality.

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