

## Femicide: An Evolutionary Psychological Perspective

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Homicide is gendered: The circumstances in which men and women kill and are killed tend to be quite different, as are the demographic patterns of risk and the apparent motivating factors. Whereas most male-victim homicides occur in the context of competitive conflicts among men, women almost never kill women in similar contexts (Daly and Wilson, 1988b, 1990; Wilson and Daly, 1985). Instead, killings of women are overwhelmingly perpetrated by men, and in the great majority of these cases, the fact that the victim was a woman is relevant to the reasons why she was killed. Most notably, a large proportion of slain women are killed by husbands (Wilson and Daly, 1992c; Wilson, Daly, and Wright, 1993) and many others are killed in contexts suggesting elements of sexual motivation.

In this chapter, we consider killings of women by men in the light of evolutionary psychological ideas about the natures of men, women, and the relationships between them. We begin with an introduction to evolutionary psychology, arguing that the psyche (including the human psyche) is usefully conceived as an integrated bundle of distinct systems, each with its "domain-specific" set of motives, emotions, attentional priorities, et cetera. In addition to such well-known psychological systems as the "hunger" system and the "language acquisition device," there are evolved social psychological systems dedicated to the nuances of heterosexual transactions and of interpersonal conflict and violence. We then propose that the circumstances and demographic risk patterns of uxoricides (killings of wives) and of sexual assault homicides can be predicted and illuminated by considering these femicides to be outcomes of the simultaneous activation of men's sexual and conflictual psychological systems. These types of femicides we argue, are "epiphenomenal" products of the evolved psychology of the human male: epiphenomenal in the sense that the relevant masculine psychological processes have evolved by Darwinian selection by virtue of other, nonlethal

effects. Nevertheless, we suggest that even if femicide itself is an epiphenomenon rather than an adaptation, evolutionary reasoning remains a powerful tool for understanding where, why, and when these events occur.

### **Evolutionary Psychology**

Psychological science is the quest to characterize the mechanisms and processes that cause or influence behavior. Psychology is closely related to physiology and neuroscience, but is distinguished by its focus on informational characterizations of mechanisms and processes: by hypotheses about recognition and categorization, procedural and event-specific memory encoding and retrieval, preferences and aversions, attentional biases, social comparisons, motivational and emotional states, and so on. Methods of testing these hypotheses are diverse: Psychologists rely on observational and experimental techniques, reaction time and preference measures, assessments of behavioral responses to cues and contingencies, various sorts of error rates, physiological manipulations and measures, and sometimes even on what the animals they are studying say.

Moreover, psychological science is a quest to describe hypothesized mechanisms and processes at a species-typical (or at least sex-typical and lifestage-typical) level of abstraction. Such theorizing typically entails "if-then" accounts of (lifestage-specific) contingent responsiveness to variable environmental cues, whether fleeting (e.g., the sex allocation decision of a parasitic wasp in response to host cues) or enduring (e.g., the queen vs. worker life trajectories of a female honey bee in response to early ingestive experience). Thus, when dealing with humans, psychologists propose constructs at a level intended to account for historical and cultural as well as ecological variations as contingent responses to variable circumstances and experiences that are produced by the various domain-specific systems of a panhuman psychological nature.

It follows that the goal of psychological science is and always has been the discovery and elucidation of evolved psychological adaptations, a subset of biological adaptations.

### *Evolved Adaptations and Darwinian Selection*

Why does complex functional design exist? No one could do better than hand-waving invocations of supernatural forces until Darwin and Wallace (1858/1958) discovered a blind process that produces adaptation, namely the cumulative effects of differential survival and reproduction of random variants over many generations. Darwin called this process "natural selection," by analogy to the deliberate "artificial" selection of breeding stock by which human beings have modified domestic plants and animals. The predominant modern conceptualization of Darwinian selection is as the nonrandom differential impacts of pheno-

typic differences on "fitness," the replicative success of elements of the focal organism's genome, relative to their alleles (see, e.g., Williams, 1992).

Darwinian selection (including "sexual selection," to which we shall return) is the only known source of the functional complexity of living things, and biologists have no reason to suspect that there are any others (Dawkins, 1986). There are additional sources of evolutionary change, including mutation, migration, and fortuitous differential mortality, but only selection generates adaptations.

Adaptations are attributes of living creatures that seem well designed to achieve some useful function such as respiration or image analysis or digestion or avoidance of predators. Organisms may thus be viewed as complex assemblages of functionally integrated anatomical, biochemical, physiological, and psychological adaptations (Williams, 1966). Adaptations may be identified at any of a variety of levels of functionally integrated complexity, so that one might refer to the visual system or the eye or a species-typical pattern of spectral sensitivity or the "bug detector" in a frog's retina as "an" adaptation. The proposition that some attribute is an adaptation is probably best construed as an hypothesis about special-purpose design, suggesting avenues of further inquiry that will subject it to verification or rejection. Generating hypotheses about what the heart or lungs or liver are "for" were essential first steps for investigating their physiology. According to Mayr (1983, p. 328):

The adaptationist question, "What is the function of a given structure or organ?" has been for centuries the basis for every advance in physiology. . . . Harvey's question "Why are there valves in the veins?" was a major stepping-stone in his discovery of the circulation of blood. If one answer turned out to be wrong, the adaptationist program demanded another answer until the true meaning of the structure was established or until it could be shown that this feature was merely an incidental by-product . . .

Natural selection designs adaptations as solutions to those particular adaptive problems that have been sufficiently persistent across generations, both in their essential forms and in their significance. These evolved solutions necessarily entail contingent responsiveness to environmental features that were statistical predictors, on average, of the fitness consequences of alternative courses of action in the past. Adaptation is not prospective. The apparent purpose in organismic design depends on the persistence of essential features of past environments. This crucial point is consistently misunderstood by those who point to vasectomies or adoptions as evidence against evolutionary ideas, and, ironically, those who have misunderstood it include not only critics of an evolutionary, adaptationist approach in the behavioral sciences, but many of its practitioners, too, including students of both human and nonhuman behavior.

Enthusiastic Darwinists sometimes advance some particular pet idea as "the evolutionary prediction," and try to pit it empirically against supposed "alterna-

tives." However, this framing misstates what is being tested. Operating within an evolutionary, adaptationist framework, one may generate numerous hypotheses, sound and unsound, some of which may be explicit alternatives, and when a particular selection-minded hypothesis fails and is rejected, it is not Darwinism that is challenged. We know, as surely as scientists know anything, that living things and their attributes have evolved, and that insofar as those attributes exhibit complex functionality, they have been shaped over many generations by selection. Although contemporary understanding of evolution by selection is undoubtedly incomplete, the general theory is no more controversial than the atomic theory (still, after all, "just a theory"). Thus, whatever the results of research in the behavioral sciences, we can be sure that evolved psychological adaptations are somehow involved. The only "alternative" to the Darwinian explanation for adaptive design that has yet been proposed is the vacuous and anthropomorphic "creationist" theory that one or more sentient beings designed everything.

Until recently, psychologists rarely acknowledged or understood the relevance of evolutionary biology to their science, but "evolutionary psychology" has become a popular label for the pursuit of psychological science with explicit attention to contemporary theory and knowledge in evolutionary biology (e.g., Barkow, Cosmides, and Tooby, 1992).

Why have psychologists been slow to incorporate evolutionary thinking? One stumbling block has been the prejudice that whereas the question of how something happens is a "scientific" one, why it happens is not. For nineteenth-century physiologists and psychologists, to ask what some attribute is "for" was to indulge in unscientific "vitalism" or "teleology." Moreover, Sober (1983) has argued that Darwin's discovery of natural selection, by replacing a purposeful creator with a blind mechanism and thus obviating arguments for vitalism or "purpose" in nature, actually reinforced psychologists' contempt for "why" questions. But if so, then the real implications of Darwinism were badly misunderstood. By providing a fully materialistic explanation for the obvious but previously incomprehensible fact that living things have complex "purposiveness" built into them, the theory of evolution by selection gave legitimate meaning to the question "why."

Whereas pre-Darwinian thinkers such as Claude Bernard had insisted that to ask "why" was to descend into mysticism, the concept of selection made adaptive significance or function as meaningful a form of explanation as proximate cause (Tinbergen, 1963). What an adaptation accomplishes is in a specific, concrete sense why it exists.

#### *Evolutionary Social Psychology*

Thinking evolutionarily facilitates the task of elucidating basic psychological mechanisms and processes. Consider, for example, the social psychology of "prosocial" behavior. Selectional thinking alerts the evolutionist to the "paradox

of altruism": that prosocial motives and emotions must be selected against if their average behavioral consequences entail risks and lost opportunities for their carriers while bestowing benefits on others. Why then do such "altruistic" psychological propensities exist? The most successful answer has proven to be Hamilton's (1964) proposal that much prosocial action is effectively "nepotistic," that is, that the psychological mechanisms producing prosocial behavior are organized such that its benefits are disproportionately enjoyed by close genetic relatives (e.g., Sherman, 1977). There is nothing magical about nepotistic discrimination, which natural selection has fashioned opportunistically by the use of a variety of "cues" (whether immediately present or integrated across personal experience) of genetic kinship. Some animal species simply discriminate in favor of anyone they first encountered in their homes, for example, and these tend to be precisely those species whose ecology makes this a reliable kinship cue; other species must rely on more complicated assessments and comparisons of individual characteristics (Hepper, 1991). What the psychologist gains by thinking evolutionarily in this case is a rationale for anticipating where and when cues of kinship are likely to be germane to social motives and behavior, as well as for generating hypotheses about what those cues might be and how they might be calibrated and combined in different contexts. Recognizing, for example, that selection will favor parental psyches that discriminate in favor of the parent's own offspring, and that the available cues of parenthood are different for the two sexes, suggests numerous testable hypotheses about sex differences in parental feelings and motivation (Daly and Wilson, 1987, 1994), as well as hypotheses about qualitative sex differences in the psychology of sexual jealousy (Buss, Larsen, Westen, and Semmelroth, 1992; Wilson and Daly, 1992a). Meanwhile, those traditional social psychologists who have lacked Darwinian insights (and have largely confined themselves to research on unrelated captive undergraduates) have never thought to ask whether kinship and prosocial behavior might have anything to do with one another.

In practice, psychological scientists have always relied on their intuitive understandings of the functional organization of the mind. But without explicit evolutionary functionalism, their intuitions have often failed them. Traditional social psychologists, for example, have appropriately made the broad, basic objectives of a hypothesized panhuman social psychological nature the centerpieces of their theories. Unfortunately, their notions of what those objectives might be have been formulated without reference to the adaptive problems that the social psyche must solve if it is to promote fitness, and that is surely why a succession of seemingly arbitrary conceptions of what the psyche is designed to achieve (the maintenance of Heiderian "balance," "self-actualization," escape from "cognitive dissonance," etc.) have simply fallen out of fashion rather than becoming validated components of a cumulative understanding (Tooby and Cosmides, 1992). Meanwhile, evolutionists were making rapid, cumulative progress in understanding social phenomena in animals (and plants), by organizing their in-

quiries around the adaptive problems that social life presents, such as mate selection, kin recognition, optimal allocation of parental investments, and assessment of the prowess and intentions of rivals. By paying explicit attention to adaptive significance and selective forces, evolution-minded students of sociality (including many biologists who would never call themselves "psychologists") attained well-founded expectations about which developmental experiences and proximate causal cues are likely to affect animals, and about what sorts of contingencies, priorities and combinatorial information-processing algorithms are likely to be instantiated in the architectures of animal minds. The same approach has at last begun to illuminate the human social psyche, too.

*Fitness Is Not Literally a "Goal"*

There is another conceptual pitfall impeding the development of evolutionary sophistication in the behavioral sciences, which must be addressed. It is common to interpret adaptations as elements in a "reproductive strategy," a metaphorical invocation that seldom causes problems when the adaptations in question are anatomical or physiological phenomena. However, when the adaptations in question are psychological, confusion may ensue. The "purposive" functionality of adaptations invites an uncritical equation between goals (states, such as a target level of blood glucose, whose attainment suspends appetitive behavior) on the one hand, and adaptive functions on the other. Consider the idea that sexual motivation has evolved "to" promote reproduction. Some have taken this to imply that contraception will be eschewed, except insofar as it can be used as a means of allocating reproductive efforts to increase the numbers or improve the circumstances of one's young; by similar logic, voluntary childlessness or vasectomy has been deemed evidence against "the evolutionary hypothesis." But it should be obvious that natural selection can only have structured psychological mechanisms and processes to be effectively reproductive, on average, in the past environments in which the history of selection took place (see Symons, 1992; Tooby and Cosmides, 1990). In an animal with uniparental female care of the young, for example, it is plausible that selection might have favored a masculine sexuality with no ambition beyond the maximization of copulatory partners; if so, then an evolutionarily novel introduction of condoms in such a population could leave the males blithely pursuing objectives that no longer contribute to their fitness.

The serious point is that Darwinism is not itself a psychological theory, nor does it directly imply any single such theory. Fitness is not properly conceptualized as something that organisms "try" to "maximize." Fitness plays a quite different role in evolutionary theory from the role that self-esteem or a target body temperature or some other "goal" plays in a psychological theory. When the fitness consequences of behavior are invoked to explain it, they should be invoked not as direct objectives or motivators, but as explanations of why particular more proximal objectives and motivators have evolved to play their particular roles in

the causal control of behavior, with particular domains of relevance, and why they are calibrated as they are.

#### *A False Dichotomy*

A final necessary caveat concerns the false dichotomy of "social" versus "biological" explanations. "Biology" is the study of the attributes of living things, and only living things are "social." So whence this idea of antithesis?

Many people equate "biology" with its purely mechanistic subdisciplines (genetics, endocrinology, neurology) and think of biological influences as intrinsic and irremediable (which is a *non sequitur* even within the misguided terms of the "biological vs. social" framework). It is then a short step to seeing these biological influences as the antitheses of extrinsic and remediable social influences. Moreover, since putative "biological" influences are conceptualized as invariant and constraining, those who propose their existence (the "nature" crowd) are unmasked as pessimists and reactionaries, whereas the advocates of "alternative" social influences (the "nurture" crowd) are optimists and progressives. This ideology, predicated on profound incomprehension of evolutionary biology, pervades the social sciences, where it is often accepted by "nature" advocates as thoroughly and thoughtlessly as by their "nurture" foes.

A presumption of this prevalent worldview is that biology, falsely defined as the study of the invariant "innate," is mute about all aspects of sociality and behavior manifesting developmentally, experientially, and circumstantially contingent variations. The very demonstration of any such contingency is seen as an exercise in the alternative, antibiological mode of explanation. The irony is that developmentally, experientially, and circumstantially contingent variation is precisely what evolution-minded theories of social phenomena (such as the evolutionary social psychological theories of effectively nepotistic adaptations discussed previously) are about.

#### **Evolutionary Psychology of Conflict and Violence**

An implication of current understandings of evolution by selection is that the individuals who comprise a sexually reproducing species constitute fundamental nodes of conflicting self-interests. Selection is the differential reproductive success of alternative phenotypic designs, within populations and within each sex. What selection favors is any attribute that enables individuals to outreproduce same-sex conspecifics. The reason why the dominant functionally integrated nodes of self-interest are individual organisms rather than their constituent genes or cells or organs resides in Mendelism: by and large (although with some important exceptions; see Cosmides and Tooby, 1981; Dawkins, 1982; Haig, 1993), the expected fitnesses of an individual organism's separate genes or other sub-

components are isomorphic with the whole organism's expected inclusive fitness, and selection favors those suborganismic elements that maximize this quantity at the organismic level.

The individual organism's likes and dislikes, motives and emotions, and so forth, may therefore be expected to evolve to promote expected fitness, and the individual's subjective self-interest (its perceptions of where its interests reside) is likely to coincide with the attainment of those "goods" that were ancestral cues of statistical expected fitness. (We stress "ancestral cues" because evolved mechanisms for assessing nutritive value can be deceived by evolutionarily novel substances such as aspartame, evolved mechanisms of sexual attraction can be deceived by evolutionarily novel cosmetic interventions, and so forth. Again, the point is that the psyche is designed to promote fitness in ancestral environments, but does not track fitness *per se*.) Two creatures' perceived self-interests are therefore complementary when the states of affairs that would enhance one's expected fitness would enhance the other's, too, and we might expect that the two will generally perceive their interests as harmonious in such a case. An example is the case of monogamous mates with shared interests in several joint offspring. By contrast, two creatures' perceived self-interests conflict when the states of affairs that would enhance one's expected fitness would detract from the other's, and here we may expect that the two will generally perceive their relationship as antagonistic. An example is the case of male rivals for the same female. Thus, Darwin's theory of selection helps point the way to a theory of the substantive nature and psychological qualities of interpersonal conflict.

Violent assaults (and threats of violent assaults) are widely used means of resolving conflicts in the perpetrator's interest, by raising the costs for other individuals of advancing their own interests. Can violence itself then be deemed "an adaptation"? The common interpretation of violence as "pathological" would seem to imply that it cannot. Violence is an abhorrent source of pain and injustice. Just witnessing a violent assault can be literally sickening, and most of us are powerfully motivated to avoid violence-prone individuals "like the plague." It is therefore tempting to interpret violence itself as a sort of "sickness."

The history of debate about "sexually selected infanticide" provides an interesting case in point (see Sommer, 1994): for years after the publication of Hrdy's (1977) adaptationist analysis of infanticide by male monkeys, many primatologists remained convinced that the behavior simply had to be pathological, although they had no good theoretical or empirical reasons to doubt Hrdy's analysis, now thoroughly vindicated. Our distaste for violence is simply irrelevant to the questions of whether it promotes its perpetrators' fitness and whether its psychological underpinnings have been shaped by selection to do so. This is not to deny that killings and other extreme outbursts of violence may often (perhaps even typically) be counterproductive and hence be correctly described as pathologically excessive. But even in such cases, the characterization of violence itself as pathology cannot be sustained (Daly and Wilson, 1994).



To an evolutionist, pathologies are failures of anatomical, physiological, and psychological mechanisms and processes, such that the compromised mechanisms and processes exhibit reduced effectiveness in achieving their evolved adaptive functions (Williams and Nesse, 1991). Pathologies may be divided into nonadaptive failures due to mishap (including developmental problems) or senescent decay, and failures due to subversion by biotic agents with antagonistic interests. Violence is an instance of neither. The prototype of a pathology due to discrete mishap is a bone fracture, the literal breakage of an evolved entity, destroying its functionality. Clearly, violence cannot be understood as a maladaptive product of "breakage," for although damage to particular brain structures can lead to pathologies of violence (e.g., Langevin, 1990), these are predicted on the existence of neural organization for the generation of adaptively organized violence. Neither is violence a senescent pathology; in the human case, the most violent demographic class is young adult males, and it is no accident that this is also the most physically formidable demographic class (Daly and Wilson, 1990). Finally, violence is not interpretable as pathology induced by disease organisms. It is likely that a subset of violent manifestations, such as the biting frenzy of animals infected with rabies and behaving as if motivated to transmit the disease, may represent adaptations for the disease organism's own replication or dispersion, usurping the host's evolved machinery to promote the fitness of an alien genome. Again, however, just as in the case of brain-damage-induced violent states, any such effects depend on the prior existence in the host animal of mechanisms designed by selection to produce organized violent action.

So if violence cannot be dismissed as pathology, what sort of evidence might warrant interpreting violent motives and capabilities as adaptations? In the spirit of the classical examples of adaptations such as the vertebrate eye (Dawkins, 1986; Williams, 1992), the answer must be apparent functional "design." If the forms and contingent controls of violence are too well tailored to the promotion of fitness to be dismissed as accidental by-products of other adaptations, then we must conclude that violence has been shaped by a history of selection.

The evidence for functional design of violence is diverse and unequivocal (e.g., Archer, 1988; Huntingford and Turner, 1987). In the first place, its elicitors are typically threats to fitness and its effects are typically to counter those threats. Animals (including people) react violently to usurpation of essential resources by rivals, and they direct their violence against those rivals. Moreover, those who initiate violence typically do so where there is some means to the end of fitness to be gained. Aggression occurs where territories are limited, when one's offspring are under threat, when food is scarce, and in the context of mating competition. Unmated males of many species, for example, challenge conspecific males who are guarding fertilizable females (the limiting resource for male fitness), and in such cases (e.g., many hoofed mammals), success in violent contests is highly predictive of mating success. Especially telling is the seasonal shutdown of the entire complex of psychological, physiological, and morpholog-

ical machinery used in such contests. In certain cases, once all the adult females are pregnant and there is no more utility in fighting, weapons are literally shed, and males who raged at the sight of one another are abruptly transformed into pacifists.

In addition to this evidence of contextual appropriateness, adaptation is apparent in the fact that the motivational states of readiness for violence (angry arousal, rage) entail postures appropriate for attack and defense, and complex psychophysiological mobilization for effective agonistic action (Archer, 1988; Huntingford and Turner, 1987). Certain morphological structures function solely or primarily as intraspecific weapons, and they are often sexually differentiated and characteristic of delimited life stages, as cost-benefit analyses of aggressive escalation suggest they should be. There is neural machinery dedicated to aggression, and this, too, is often sexually differentiated (e.g., Archer, 1991; Daly and Wilson, 1983). Moreover, the sexual differentiation of physical aggression is itself variable across species, and the magnitude of sex differences in both overt weaponry and in intrasexual aggressive behavior is predictably related to species differences in the breeding system (Daly and Wilson, 1983). All of these facts testify to the potency of natural and sexual selection in shaping the anatomy and psychology of violence.

### **Female and Male in Evolutionary Perspective**

If we are to understand femicides—killings of women in which their gender was germane to their victimization—we need some vision of what femaleness and maleness are all about. Most of the adaptations characteristic of any particular species are more or less identical in females and males (e.g., our visual system), but some are sexually differentiated (e.g., mammary glands). What accounts for the coexistence of male and female “morphs” and for their particular differences? What has Darwinism to say about the nature of the sexes, their complementarity, and the sources of conflict between women and men?

#### *Sexual Selection and Bateman's Principle*

Although most complex, evolved attributes have clearly been designed by selection to promote their bearers' survival, certain features, such as the brilliant colors and gaudy appendages of some male birds, apparently detract from expected lifespan. Darwin (1871) explained the evolution of such attributes by noting that mere survival is not the same thing as reproductive success. Brilliant plumage might increase conspicuousness to predators, for example, and thus increase mortality, yet still enjoy a reproductive advantage through “sexual selection,” which is a process that occurs whenever some attribute confers differential access to mates, whether by virtue of its appeal to the potential mates themselves or

by conferring some advantage in intrasexual competition for mates. (See Cronin, 1991, for an accessible review of both historical and contemporary theory and research on sexual selection.) What Darwin failed to clarify was why sexual selection so often has different impacts on females versus males, and why it is typically the latter whose design for survival is more compromised by adaptations for mate attraction and mating competition.

The female is, by definition, the sex that produces the larger gamete: Ova are bigger than spermatozoa. Bateman (1948) was apparently the first biologist to appreciate the relevance of this gamete dimorphism to sexual selection. Bateman showed that a male fruitfly's fitness was an approximately linear function of the number of females he mated with, whereas a female's fitness was unaffected by additional mates beyond the first. In other words, the male fly's fitness was directly limited by access to fertile females, whereas female fitness was limited not by access to males, but by access to the material resources necessary for reproduction or, when resources were abundant, by her limited capacity to convert them into offspring. These results seemed to Bateman to be of much broader applicability: Noting that the "greater dependence of males for their fertility on frequency of insemination" is "an almost universal attribute of sexual reproduction," he suggested that selection might therefore be expected to produce adaptations for mating competition primarily in males and adaptations for discriminating among suitors primarily in females.

Essentially the same argument applies to people and other mammals, even though the reproduction of female mammals is not limited merely by egg production capacity as in Bateman's flies. Because sperm evolved as motile egg-seekers, the many separate evolutionary inventions of internal fertilization have almost invariably led the female rather than the male to be the carrier of developing embryos. Thus, when further adaptations for postzygotic nutritive transfer and fetal protection have evolved, they still tend to be mainly female adaptations, as in mammalian pregnancy and lactation. In taxa such as mammals, females typically make a greater "parental investment" (Trivers, 1972) in each individual offspring than males, so that this female investment is itself the "resource" limiting male fitness.

The minimal cost of successful reproduction for a female mammal is a large investment of time and energy in pregnancy and lactation; a male can sometimes garner the same fitness for no more investment than the cost of a copulation. Accordingly, although their mean fitnesses are identical when the sexes are equally numerous, there is generally a greater variance in reproductive success among males, who have both a higher maximum fitness than females and a higher probability of leaving no descendants at all. This state of affairs (an "effectively polygynous" mating system) has the result that selection favors somewhat different attributes in the two sexes: Females incur greater selection pressure to exercise careful mate choice, and males incur greater selection pressure both to increase the sheer number of mates and to compete more intensely with same-sex

rivals for mating opportunities. Indeed, insofar as reproductive efforts can be partitioned into the pursuit of matings versus parental investment (Trivers, 1972; Low, 1978), male mammals generally invest more of their efforts and resources in the former and females in the latter.

Resultant male adaptations for success in mating competition include not only conspicuous weaponry such as antlers and musculature for combat, but also more subtle psychological traits such as social-context-dependent risk acceptance. Moreover, insofar as males are specialized physically and psychologically for violent competition, and insofar as male fitness is largely determined by the frequency and exclusivity of mating access, it is hardly surprising that male mammals use threats and violence on females, too, in their attempts to control them.

Male adaptations that contribute to success in mating competition impose costs in other domains. The great size and aggressivity of males in effectively polygynous species, for example, tend to be associated with excess vulnerability to threats of starvation, disease, and even predation, as the demands of same-sex competitive prowess compromise male design efficiency for other aspects of the species' ecological niche (Gaulin and Sailer, 1985). Moreover, because selection against senescent deteriorations is less effective in the sex that dies younger from all these extrinsic causes, the males who are lucky enough to escape these sources of mortality in their prime can expect to senesce and die from intrinsic causes at an earlier age than females.

These generalizations about mammalian sex differences are broadly valid, but should not obscure equally interesting facts about diversity. The extent to which males have higher fitness variance than females, grow larger, die younger, and so forth, varies greatly even among closely related species. This variability is not chaotic, for these various sex differences are highly correlated with one another. Most notably, when the sexes share parenting (as in the lesser apes and various monkeys, beavers, the wild relatives of dogs, and a few other mammals), these sex differences are reduced or abolished. Shared parenting is rare in mammals, however, probably largely because males lack reliable cues of paternity, with the result that fathers are vulnerable to "cuckoldry" (unwitting investment in young sired by rivals), and paternal investment is therefore evolutionarily unstable.

#### *Female Choice and Autonomy*

Bateman's analysis suggests that a sexual asymmetry in the adaptive problems (or "selection pressures") confronted by females versus males has led the latter to be relatively preoccupied with sexual access and intrasexual competition. What, then, may we expect to be female preoccupations?

One is simply the minimization of the costs imposed by males. In species in which males provide no parental investment, an already inseminated female may have no use for males at all, but males may still court and harass her, imposing costs ranging from lost feeding time to severe injury and even death (Mesnick,

this volume). Moreover, whereas potentially fatal injury to the female in such contexts is a maladaptive epiphenomenon of male motives and is usually relatively rare, males often possess specific adaptations for the destruction of the female's progeny from prior matings so that such "sexually selected infanticide" is a source of frequent, massive losses of female fitness (e.g., Parmigiani and vom Saal, 1994). Female adaptations to escape or reduce these male-imposed costs may include matrilineal or other female-female affiliation, and preferential mating with "least costly" males (Smuts, 1992; Wrangham, 1980).

Perhaps the most important priority for many female animals in their heterosexual interactions is the maintenance of choice: with whom to mate and under what circumstances they will "try" to reproduce at all. Where multiple males are eager to mate and will provide little of value after conception, females may be expected to hold out for some sort of benefit. The benefits that they can command are of two sorts: either a transfer of material resources as a condition for mating or the best available set of genes, to be combined with her own genes in the production of offspring. Recent research has shown that females have evolved a wide range of complex mate-choice psychologies for attaining both sorts of benefits (see Andersson, 1994; Cronin, 1991).

Even when males share parental care with females, with the result that the agendas of the two sexes are much more alike, females may still be concerned to evade the coercive control of their mates and copulate with preferred partners, thereby gaining genetic and other benefits. Birds were characterized by scientists as predominantly monogamous, until the use of DNA-fingerprinting revealed an unsuspected prevalence of "extrapair paternity" in many species.

#### *Polygamous Inclinations in Men and Women*

*Homo sapiens* is, of course, one of those relatively few mammalian species exhibiting mateships of some stability, with biparental contribution to the welfare of the young. However, the human animal is hardly an exemplary monogamist. Sex differences in body size, maturation schedules, intrasexual combat, and senescence are vestiges of effective polygyny, and human sex differences in each of these attributes, although smaller than in extremely polygynous mammals, are significant, quite unlike the case in monogamous gibbons or foxes or beavers. Thus, human sex differences appear to have evolved under the influence of slight effective polygyny. Likely implications are that pair-formation and biparental care of young constitute an ancient hominid adaptation, but that a few competitively ascendant men nevertheless continued to be polygynous. This interpretation is supported by the ethnographic record of modern marriage practices: In the majority of known societies (including all who subsist by foraging, as all of our ancestors did until the relatively recent invention of agriculture), most marriage is at least serially monogamous, but some men of high status are polygamous (Betzig, 1986; Murdock, 1967).

Why selection might be expected to have equipped men with a relatively polygamous and indiscriminate sexuality has long been clear to evolutionists (e.g., Symons, 1979), and the evidence for the expected sex differences in sexuality is extensive (e.g., Buss, 1994). Less widely recognized are the strong empirical and theoretical reasons for suggesting that selection has not favored a strictly monogamous psychology in women, either. The most direct evidence on this point is the testimony and behavior of women, for although various studies indicate lesser average inclinations toward polygamy and adultery in women than in men, it is clear that such inclinations are prevalent in both sexes (e.g., Baker and Bellis, 1990, 1995; Buss, 1994; Johnson, Wadsworth, Wellings, and Field, 1994; MacIntyre and Sooman, 1991).

Less direct but equally compelling evidence that women have not evolved as strict monogamists is to be found in men: Several design features of the human male seem best interpreted as adaptations for counteracting polyandrous mating by their mates. The size and spermatogenic capacity of human testes, for example, exceed what would be expected if females mated monogamously (as in the biparental gibbon, say, or in the polygynous gorilla), indicating a sexual selective history of "sperm competition" among rival male ejaculates simultaneously present in the female reproductive tract (Harcourt, Harvey, Larson, and Short, 1981; Møller, 1988). Moreover, human male psychophysiology evidently regulates ejaculate composition in response to cues indicative of sperm competition risk (Baker and Bellis, 1989, 1993). Other psychological attributes that seem to indicate male counteradaptation to the polyandrous inclinations of women include male sexual proprietariness (Wilson and Daly, 1992a), the specific focus of male jealousy on the sexual act (Buss et al., 1992; Daly, Wilson, and Weghorst, 1982), and male concern with paternity and its cues (Daly and Wilson, 1982a, 1987).

Why would selection favor female inclination to mate with more than a single male? This question is not simply sexist, for Bateman's principle would seem to indicate that females do not gain from polygamous mating in the same way that males do. Moreover, there are several potential costs to mating polyandrously, including wasted time and energy, risk of disease transmission, and damage during mating itself (Daly, 1978), risk of diminution or withdrawal of paternal investment upon discovery of cuckoldry (Trivers, 1972), exacerbated competition among one's offspring in response to cues of reduced relatedness due to mixed paternity (Holmes and Sherman, 1982), and any additional costs, such as violence, that one's mate may impose in pursuing his own counterstrategy of deterring infidelity. However, there is an equally long list of potential benefits of polyandrous mating, even in a pair-forming biparental species. These include fertility backup, material benefits offered by male suitors in more or less direct exchange for copulation, adaptive cuckoldry when the best available paternal investor does not provide the best available gamete quality, exercising mate choice after having a nonpreferred mating option imposed coer-

cively, distributing paternity possibility among males who may thus be inspired to aid the female's future offspring (or at least deterred from damaging them), keeping a potential replacement mate interested and available in the event of loss (or diminution of mate value) of the present one, and diversifying the genotypes of one's young as a hedge against environmental change or as a means of reducing their similarity, and hence the degree to which they require and compete for identical resources.

It is plausible that several of these potential benefits have been selective forces in the evolution of human female sexuality (Benshoof and Thornhill, 1979; Hrdy, 1981; Kaplan and Hill, 1985; Smith, 1984; Wilson and Daly, 1992a). But whatever the forces responsible, woman's sexuality is clearly not a strictly monogamous one, and this fact is presumably of great relevance to the intensity and violence of both male-male competition and men's efforts to exert control over women.

## Femicide

### *Homicide as a "Conflict Assay"*

Homicides provide a particularly valuable window on the psychology of interpersonal conflict (Daly and Wilson 1988a, 1988b). Whereas the seductively convenient self-report methods of social science are of especially dubious validity with respect to ugly matters such as antagonism, hostility and violence, a lethal assault is unequivocal, drastic action. Moreover, because the bodies are usually found and the circumstances at least minimally investigated, a sample of homicide cases does not suffer from the biased detection and/or reportage that plagues records of lesser manifestations of genuine conflict. Any theory of the nature of interpersonal conflict ought to shed some light on who is likely to kill whom, when, why, and under what circumstances.

It must be emphasized that studying homicide as a sort of "assay" of the evolved psychology of interpersonal conflict does not presuppose that killing *per se* is or ever was adaptive. There may or may not be psychological adaptations specifically "for" perpetrating homicide, and there may or may not be psychological adaptations that owe their forms to the selective effects of specifically homicidal events in our evolutionary past, but these issues are tangential to our purposes here. Regardless of whether such adaptations exist, homicide may be viewed as an unusually extreme manifestation of conflicts that are usually non-lethal. Factors that exacerbate or mitigate conflict may thus be expected to raise or lower the likelihood of homicide, respectively, regardless of whether homicide itself is self-interested action or an overreactive "mistake" with negative consequences for the perpetrator.

*Uxoricide*

A murdered woman—unlike a murdered man—is as likely as not to have been slain by her spouse (e.g., Daly and Wilson, 1982b; Kruttschnitt, 1993; Wilson and Daly, 1992c; Wilson et al., 1993). If these killings may indeed be treated as a conflict assay, as we have suggested, then the circumstances and demographic risk patterns characteristic of uxoricide cases may be expected to parallel patterns in the much more frequent exercise of nonlethal violence, and should prove to be intelligibly related to sources of variability in marital conflict (Wilson, Johnson, and Daly, 1995).

Husbands' use of violence is ubiquitous (e.g., Counts, 1990; Counts, Brown, and Campbell, 1992; Levinson, 1989), but the contexts in which such violence occurs are evidently few. Men assault their wives and sometimes kill them in response to suspected or actual sexual infidelity, in response to the women's attempts to leave and/or to cues of women's possible intent to do so, in order to "discipline" an "overly independent" wife, and in response to other factors (perhaps his own infidelity or paranoid delusions) that activate the psychological system of male sexual proprietariness and jealousy (e.g., Campbell, 1992; Counts, 1990; Counts et al., 1992; Cousson and Boisvert, 1994; Daly and Wilson, 1988b; Daly et al., 1982; Dobash and Dobash, 1979; Polk and Ranson, 1991; Wilson and Daly, 1992a, 1992b, 1993a, 1993b). We propose that the particular cues and circumstances that inspire men to use violence against their partners reflect a domain-specific masculine psychology that evolved in a social milieu in which assaults and threats of violence functioned to deter wives from pursuing alternative reproductive opportunities, which would have represented substantial threats to husbands' fitness through misdirected parental investment and loss of mating opportunities to reproductive competitors.

One might imagine that the prominence of uxoricides as a proportion of all femicides is a mere by-product of routine activity budgets in which wives are vulnerable because they are "at hand," behind closed doors, when their husbands become angry, frustrated, or drunk. However, there is evidence that risk to wives is greater than can be explained by their mere availability as potential victims. In a one-year sample of homicides in the city of Detroit, for example, coresiding spouses incurred a level of homicide risk more than eleven times greater than was incurred by other coresiding relatives of similar availability to potential killers (Daly and Wilson, 1982b). Moreover, if men killed women who were merely conveniently near at hand, the danger would decline when couples separate. Alas, it does not.

Wilson and Daly (1993a) predicted and confirmed that the risk of uxoricide would actually be exacerbated in the aftermath of separation. Our rationale for this prediction derived from our hypothesis that coercive use of violence is one means by which uxorial proprietary claims are maintained by husbands. If violence and threats of violence by husbands indeed function to limit female auton-



omy, then men's minds are likely to be such that violent inclinations are aroused specifically by a wife's desertion or by probabilistic cues of her likelihood or intention of desertion. It follows that resolving to leave one's husband may be associated with elevated risk of violence, including risk of being killed. Because the decision to leave is covert, however, it is difficult to compare the incidence of violence against wives considering or intending to leave with the violence experienced by other coresiding women. What one can do is to assess the violence incurred by those who actually do leave, and their risk of being slain is indeed substantially elevated, despite the separated woman's lesser availability to her assailant (Fig. 18.1).

The fact that separation is temporally associated with increased lethal risk does not necessarily mean that the link between the two is directly causal, however. If women were to leave assaultive husbands when the frequency and severity of assaults become intolerably dangerous, then the immediate postseparation period might be a time of elevated uxoricide risk, regardless of whether men respond violently to separation *per se*. Moreover, the simple fact that separated

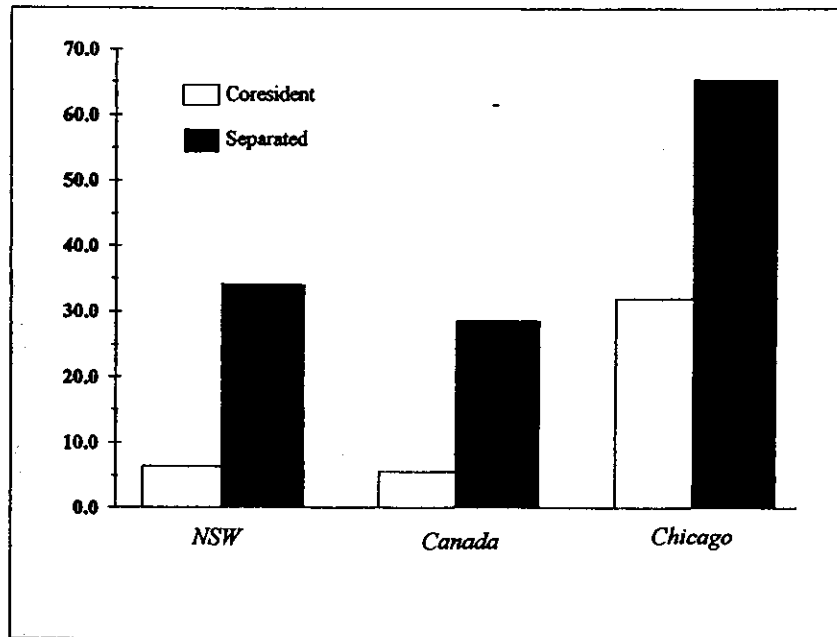


Figure 18.1 Uxoricide rates for coresiding and separated couples in New South Wales, Australia (NSW, 1968–1986), Canada (1974–1990), and Chicago, USA (1965–1990) for registered marriages. Uxoricide rate is defined as number of registered-married wives killed per annum per million registered-married wives in the population-at-large who were coresiding or separated. Data from Wilson and Daly (1993a).

couples constitute a subset of marriages with a history of discord might in principle explain their higher homicide rates. However, case descriptions often make it clear that the link between separation and murder is more than incidental. Homicidal husbands are often noted to have threatened to do exactly what they did, should their wives ever leave them, and they often explain their homicides as responses to the intolerable stimulus of the wife's departure (e.g., Allen, 1990; Campbell, 1992; Crawford and Gartner, 1992; Mahoney, 1991; Wallace, 1986; Wilson and Daly, 1993a). Still, the wife's desertion and the husband's assault may sometimes coincide not because one caused the other, but because both were precipitated by the same episode of marital conflict. Although direct evidence of the risks to wives who did or did not leave as a function of equivalent conflicts is not available, some evidence suggests that separation *per se* is associated with incurring more severe violence (e.g., Johnson, 1995; Wilson et al., 1995).

When a wife is pursued and killed by a husband she has left, the killer's motive is obviously not merely to be rid of her. Yet if keeping her is his aim, killing is even more clearly counterproductive. We propose that such homicides are the dysfunctionally extreme products of violent inclinations whose lesser manifestations are effective in coercion, for although uxoricide may seldom serve the interests of the killer, it is far from clear that the same can be said of nonlethal wife abuse. A credible threat of violent death can very effectively control people, and the evidence in Figure 18.1 suggests that such threats by husbands are often sincere. Women confronted with such threats are often cognizant of the dangers they would face if they left and are deterred from doing so. Moreover, unlike assaults or threats directed at strangers, violence against wives has had a legitimacy that has enhanced the coercive power of proprietary husbands' threats. Until recently, husbands were legally entitled under Anglo-American law to confine wives against their will (e.g., Dobash and Dobash, 1979, 1984; Edwards, 1985; Wilson and Daly, 1992b). Persons who gave sanctuary to a fleeing wife, including even her relatives, were legally obliged to give her up or be liable for the tort of "harboring," and Englishmen remained entitled to restrain wives intent on leaving them until a 1973 ruling made such acts kidnappings (Atkins and Hoggett, 1984).

There are a variety of cues that husbands might use to assess the probability of losing a wife either temporarily or permanently, including the rates at which husbands encounter potential male rivals (i.e., cues of bachelor pressure); cues of the status, attractiveness, and resources (hence, mate value) of rivals relative to the husband, and of rivals' social groups (lineages, castes, etc.) relative to the husband's own social group or category; and cues of local marital (in)stability (Wilson and Daly, 1994b). Research assessing the relevance of these potential cues to violence against wives is urgently needed. We would also expect local cues of life trajectory and life expectancy to be relevant to the likelihood that potentially dangerous coercive and violent motives, emotions, and actions will

come to the fore, since future prospects and expected lifespan affect the utility of accepting a present risk (Daly and Wilson, 1990, 1995; Wilson and Daly, 1985). A man's rivals are likely to be relatively undeterred by the dangers associated with adulterous overtures, for example, when their own life prospects are poor. Being part of a relatively large age cohort should also be expected to intensify male-male competition, especially where same-age women are unavailable; thus cohort size effects on intrasexual rivalry, and hence on the coercive constraint of women, may be especially evident where age disparities at marriage are large. Considerations such as these suggest a number of hypotheses about the relative risk of violence by husbands against wives in different communities or populations (Wilson and Daly, 1993b).

In addition to these demographic influences, the arousal of men's proprietary jealousy may also be expected to vary in relation to variable attributes of women. A man is vulnerable to cuckoldry as a result of his wife's infidelity, for example, only when she is fertile; while he may be concerned to protect a pregnant wife from various sorts of harms, he need not protect her from insemination by rivals. In a rare investigation of human mate guarding, Flinn (1988) found that men indeed appear to be sensitive to correlates of their wives' current capacity to conceive, and hence of cuckoldry risk. One such correlate is the woman's youth, but here the issue is not solely or even principally that of her current age-specific fertility. It is not simply cuckoldry that men's sexual proprietary motives defend them against but also desertion by their wives. Since men lay long-term claim to their wives, men value them at least in part in relation to what evolutionary biologists (Fisher, 1930/1958) call "reproductive value" (RV): the statistically expected summed future reproduction of an individual, given her age, condition and circumstances. This quantity has proven to be a useful predictor of intraspecific variations in reproductive behavior and physiology in nonhuman animals (e.g., Clutton-Brock, Guinness, and Albon, 1982), and for those species that exhibit mate fidelity across successive reproductive episodes, RV is a measure of the fitness value and hence the attractiveness of potential mates. The RV of women is maximal soon after puberty and begins to decline steeply in their thirties. As one would then expect, youth is a major determinant of women's sexual (Kenrick and Keefe, 1992) and marital (e.g., Borgerhoff Mulder, 1988; Buss, 1994; Buss and Barnes, 1986; Glick and Lin, 1987) attractiveness. These age-related "opportunity" and "motivational" considerations, as well as other factors, including childlessness, suggest that young wives may be more likely than older wives to terminate an unsatisfactory marriage, more likely to be "courted" by sexual rivals of the husband, and more likely to form new sexual relationships. Hence, we have hypothesized that men may be especially jealous and proprietary toward young wives, resulting in high rates of assault.

Uxoricide risk is indeed maximal for the youngest wives in the modern West (Fig. 18.2; see also Daly and Wilson, 1988a, 1988b; Mercy and Saltzman, 1989; Wilson, 1989; Wilson et al., 1993). This finding may strike the reader as evi-

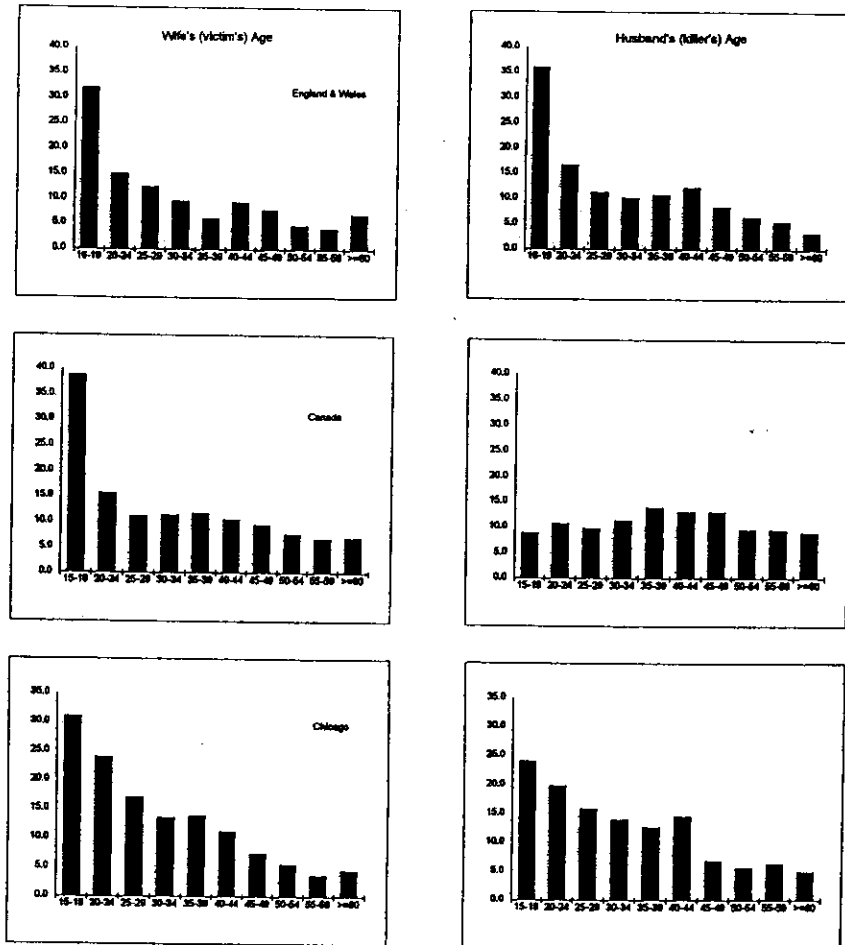


Figure 18.2 Uxoricide rates by age of wife victims (left panel) and by age of their husband killers (right panel) for England and Wales (1977-1990) in the upper panel, for Canada (1974-1992) in the middle panel, and for Chicago, USA (1965-1989) in the bottom panel. Uxoricide rate is defined as number of wives killed (or number of husbands who killed) per annum per million wives (or husbands) in the population-at-large for each age category. See Wilson, Daly, and Wright (1993) for explanation of computation of uxoricide rates.

dence against the proposition that men "value" young wives maximally, but the paradox disappears when one views uxoricides as the dysfunctional extremes of "normal," nonlethal coercive violence. Such nonlethal violence occurs in thousands of marriages for every one that ends in uxoricide, and like uxoricide, is incurred at the highest rates by the youngest wives (Wilson et al., 1995).

The direct relevance of wives' youth to husbands' violence remains questionable, however. Many other variables are correlated with wife's age, including parity and childlessness, duration of the union, economic circumstance, and the man's own age. The information that would be needed to sort out the separate impacts and priorities of these factors is as yet unavailable for any sample of uxoricide cases, although Wallace's (1986) data on Australian cases suggest that short marital duration and youth are each predictors of risk when the other is controlled. Something can also be said about the relevance of the husband's age. Since young men are the most violent age-sex class generally (e.g., Daly and Wilson, 1990; Wilson and Daly, 1985, 1994b), an obvious hypothesis is that the reason why young wives are relatively often slain is simply that they are usually married to young men. It is unlikely that this is the whole story, however: In Canada and to a lesser degree in Chicago (but not in England and Wales), the wife-victim's youth is more strongly related to risk than the husband-perpetrator's (Fig. 18.2). Moreover and more generally, age disparity between husband and wife is a major risk factor for uxoricide (Daly and Wilson, 1988a, 1988b; Mercy and Saltzman, 1989; Wilson et al., 1993; Wilson and Daly, 1994a), such that young wives married to older husbands actually incur greater risk than those married to young husbands (Wilson et al., 1993).

Uxoricide rates vary over time and place, but patterns of risk associated with coresidency status and with age and age disparity have proven remarkably robust, at least among these contemporary industrial societies with very different total rates of homicide (these are also the only sorts of societies for which the data necessary to analyze uxoricide risk in relation to age are available). We discovered these patterns of risk by considering the cues and circumstances that the evolved psychology of male sexual proprietariness might be expected to track. We would thus expect that similar patterns of variable risk characterize nonlethal violence against wives, too, as seems to be the case (Wilson et al., 1995), and we expect that the relevance of these risk factors will be found to have considerable cross-cultural generality. This does not imply that we consider cultural variation to be nonexistent or unimportant. Indeed, we have derived from our evolutionary psychological perspective a set of specific predictions about the correlates of cross-cultural variations, as briefly noted. For fuller discussion, see Wilson and Daly (1993b).

### *Sexual Assault Femicides*

We now consider a different category of femicides, namely those perpetrated in the context of sexual assault. In principle, of course, uxoricides and sexual assault femicides might be broadly overlapping categories. The former is a class of cases defined in terms of victim-killer relationship, the latter a class defined in terms of an alleged motive or circumstance, and there is no reason why falling into the former category must preclude falling into the latter, too. But despite their logical independence, in fact, these two categories are virtually nonoverlapping within the homicide archives that we have analyzed.

In part, this pattern is likely to be an artifact of police coding practices. It is, after all, only very recently that "marital rape" ceased to be an oxymoron in law and police practice (e.g., Edwards, 1985; Russell, 1982). When constrained to select a single "motive" or "circumstance" category from a limited menu of options, police may be relatively unlikely to attribute an uxoricide to sexual assault, even if there is evidence of sexual activity at the time of the killing. (Indeed, they may be relatively unlikely to bother checking whether any such evidence exists if it is unequivocal that the husband was the killer. For one thing, police collect evidence largely for purposes of prosecution, and uxoricidal husbands often commit suicide, obviating this need.) But in fairness to the police, it may well be that sexual assault really is a relatively infrequent element in uxoricide cases. And perhaps even where sexual assault has occurred, there may be some validity to the notion that it is less often of primary motivational significance in uxoricides than in other sexual assault femicides. These are issues that cannot be settled on the basis of available materials. What we can do is to examine nonuxoricidal sexual assault femicides, comparing them both to other "motivational" categories of nonuxoricidal femicides and to the killings of wives.

In general, definitions of sexual violence have varied depending on who is defining the act, the circumstances, and the status, age, and relationship of the man and woman (e.g., Muehlenhard, Powch, Phelps, and Giusti, 1992). "Rape" is sometimes construed extremely narrowly (e.g., vaginal copulation with ejaculation with an unrelated woman, with clear and convincing evidence of physical coercion) and at other times so broadly as to encompass any incident in which there is evidence of constraint of female choice preceding attempted or completed sexual intercourse (or even so broadly as to encompass consensual sexual acts, as in definitions of "statutory rape"). In femicides, the attribution of a sexual assault motive has typically derived from coroners' evidence concerning the nature of the victims' injuries and/or the presence of sperm, especially when witnesses were absent, with the additional implicit criterion (at least until the recent acknowledgment of the existence of marital rape) that the woman was not cohabiting with or married to the perpetrator. These definitional issues bedevil efforts to identify factors relevant to variation in the incidence of sexual assaults, including femicidal assaults, but a study of femicide has at least the methodological advantage of minimizing the reporting and detection biases that plague the study of nonlethal sexual violence (e.g., Koss 1993a, 1993b; Koss, Gidycz, and Wisniewski, 1987; Marshall, Laws, and Barbaree, 1990; Thornhill and Thornhill, 1983).

Various hypotheses have been proposed to account for sexual violence against women. Perhaps the most popular explanatory theme has been that men rape to assert their power and domination and antipathy, with any sexual aspects of the act being secondary. Many writers have furthermore emphasized the greater size and strength of men, although this factor merely accounts for why rape attempts can succeed, adding little or nothing to our understanding of why men are so in-

clined. No theory of rape that downplays the relevance of human sexuality and sex differences therein seems to shed much light on the patterns of risk of sexual assault homicide considered below.

From a woman's point of view, sexual assaults are indeed costly in terms of physical, sexual, social, and emotional damage (Koss, 1993b; Resick, 1993; Thornhill and Thornhill, 1989, 1990a, 1990b, 1990c). The very occurrence of the assault, the perpetrator's expressions of hostility, and the harms to the victim are evidence of the male perpetrator's power and domination (e.g., Darke, 1990). But evidence that power and hostility are motivationally relevant is hardly evidence that sexuality is not. The perpetrators of sexual assaults are typically sexually aroused (e.g., Barbaree and Marshall, 1991; Lalumière and Quinsey, 1994; Malamuth, Socklosie, Koss, and Tanaka, 1991; Malamuth, Heavey, and Linz, 1993; Marshall et al., 1990; Thornhill and Thornhill, 1983, 1992), and there is strong evidence that the assault affects the subsequent sexual life of the victim (Koss, 1993b; Resick, 1993; Thornhill and Thornhill, 1989, 1990a, 1990b, 1990c). The proposition that men who rape are motivated to exert power and control over women is not an alternative to the proposition that they are sexually motivated, and the mechanistic and functional relationship between these motives are what require elucidation (Thornhill and Thornhill 1992).

From an evolutionary psychological perspective on male sexual psychologies, many complex mental mechanisms—including those germane to sexuality and coerciveness, both separately and together, and others dedicated to such social matters as moral indignation and perceived insult—are likely to play some causal role in an incident of sexual assault, whether fatal or not. As we argued earlier, the intensity, frequency, and elaboration of manifestations of an evolved masculine sexually proprietary psychology depend on local history, social circumstances, developmental experiences, and any factors affecting the processing of ancestral cues of costs and benefits. Similarly, the frequency, intensity, and elaboration of manifestations of discounting of female choice in pursuing a particular sexual opportunity—whether for a one-time liaison or a lifetime—depend on such factors as the social, parental, and marital status of the woman, the social status of the man, kinship alliances, local history, social sanctions, and other social and developmental considerations (e.g., Malamuth et al., 1993; Smuts, 1992; Thornhill and Thornhill, 1992).

The proposition that masculine coercive psychology and masculine sexual psychology are functionally and thus motivationally linked has only recently begun to be explored with respect to its implications about the effects of situational and demographic variables (e.g., Ellis, 1989; Smuts, 1992; Thornhill and Thornhill, 1992; Wilson and Daly, 1992a, 1993b). Whether there exist psychological adaptations specifically for sexual coercion, adaptations that entail something more than the simultaneous arousal of sexual and coercive inclinations, has yet to be elucidated (Ellis, 1989; Malamuth et al., 1991, 1993; Prentky and Knight, 1991; Thornhill and Thornhill, 1992; Wilson and Daly, 1992d).

If men use violence to coercively expropriate sexual opportunities from women who would otherwise not comply, then it might be anticipated that those women whose characteristics tend to be most effective in arousing male sexual interest will incur the greatest risk of sexual assault. As we noted earlier one attribute that male sexual psychology appears to "value" is woman's youth. Young women may thus be expected to incur greater risk of sexual assaults than older women, all else being equal, and young women indeed appear to be the most frequent targets of nonlethal sexual assaults by men (e.g., George, Winfield, and Blazer, 1992; Malamuth et al., 1993; Thornhill and Thornhill, 1983). We find that they also incur the greatest risk of sexual assault homicides (Fig. 18.3).

Of course, age-related variations in women's victimization rates could occur for reasons unrelated to the perpetrators' preferences. Criminologists have accounted for differential victimization largely in terms of "opportunity" resulting from variations in the routine activities or lifestyles of potential victim groups (e.g., Gartner, 1990). Although such differential exposure to risk is undoubtedly relevant, we propose that it will not provide a complete explanation of differential victimization. If the pattern of sexual assault femicide victimization in relation to the woman's age (Fig. 18.3) were merely a reflection of age-related variations in vulnerability as a result of routine activities or lifestyle, one might expect similar age patterns to characterize other sorts of femicide victimization, too. The age pattern of uxoricide risk (Fig. 18.2) is indeed similar to that of sexual assault femicide (Fig. 18.3), but this is not really support for the previous proposition, since there is no particular reason that "opportunity" to be slain by one's husband and "opportunity" to be slain by one of the unrelated men responsible for almost all the killings in Figure 18.3 should rise and fall together.

Stronger evidence for the significance of opportunity would come from parallel patterns of risk in sexual assault femicides and in femicides motivated by theft. These two categories are quite similar in their distribution between public places and the victim's homes, and both categories are overwhelmingly perpetrated by unrelated men. Thus, variations in routine activities might be expected to have parallel effects on women's exposure to risk of both sorts of femicide. As it happens, however, the risk patterns for these two sorts of cases are very different (Fig. 18.4 vs. Fig. 18.3), and strikingly so, in view of the similarity in age distributions of the perpetrators. Since both sorts of femicide depend on opportunity for predatory victimization at the hands of one-and-the-same demographic class, their distinct age-specific victimization patterns clearly cannot be explained by age-specific exposure to risk.

Why do elderly women incur the greatest risk of femicide in the context of theft? One might propose that they are tempting targets because of relative affluence, but older women are not, in fact, wealthier than young women (Statistics Canada, 1993; U.S. Bureau of the Census, 1991). Neither is it likely that older women's routine activities expose them to greater risk; if anything, their well-



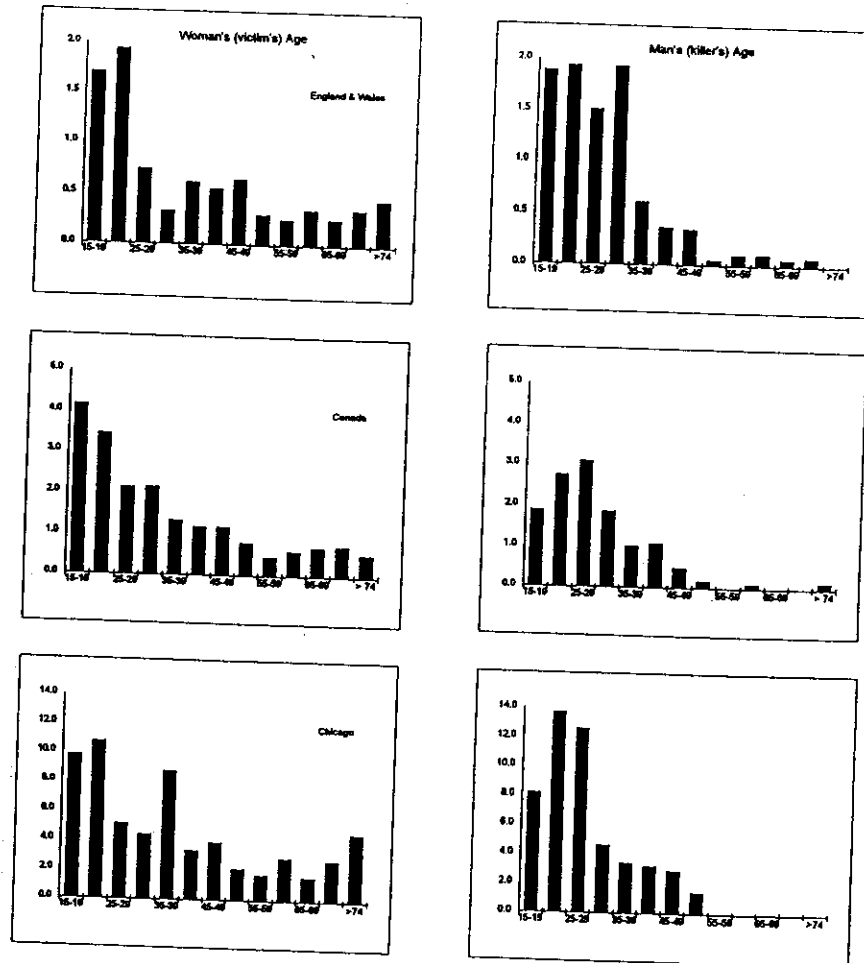


Figure 18.3 Sexual assault homicide rates for women victims (left panel) and for their male killers (right panel) for England and Wales (1977-1990) in the upper panel, for Canada (1974-1992) in the middle panel, and for Chicago, USA (1965-1989) in the bottom panel. Homicide rate is defined as number of homicides per annum per million women (or men) in each age category.

documented fear of crime should have the opposite effect. The likeliest hypothesis is simply that elderly women are a relatively vulnerable group, both in the sense of literal fragility, and in that they are perceived by offenders as defenseless and hence low-risk targets. Note, however, that the same attributes would make them maximally vulnerable to sexual assaults, too, if the perpetrators of this crime were indiscriminate with respect to their victims' ages.

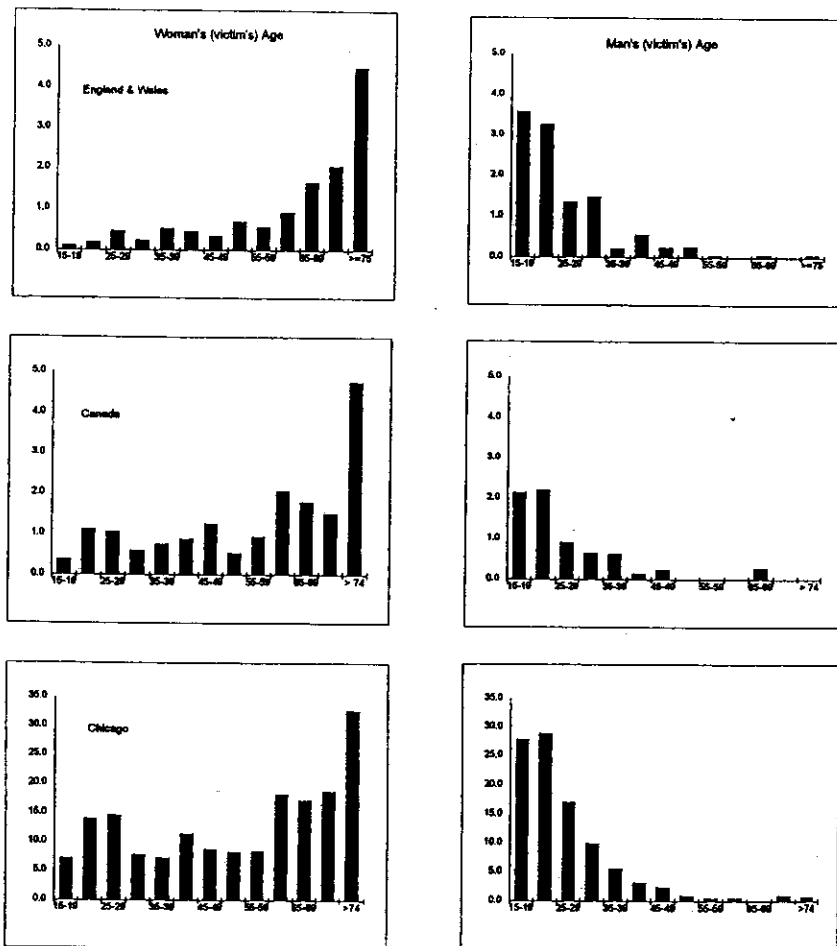


Figure 18.4 Theft (including both robbery and burglary) homicide rates for women victims (left panel) and for their male killers (right panel) for England and Wales (1977–1990) in the upper panel, for Canada (1974–1992) in the middle panel, and for Chicago, USA (1965–1989) in the bottom panel. Homicide rate is defined as the number of homicides per annum per million women (or men) in each age category.

Fruitless debates about whether rape is sexually “or” hostilely motivated must be replaced by a more complex understanding. Several experts have argued persuasively that sexual assault entails the simultaneous activation of men’s sexual and coercive psychologies (e.g., Barbaree and Marshall, 1991; Ellis, 1989; 1991; Hall and Hirschman, 1991; Knight and Prentky, 1990; Malamuth et al., 1991, 1993; Prentky and Knight, 1991; Thornhill and Thornhill, 1992). Sexual aggress-

sors lack empathy toward women, but they are not necessarily general psychopaths (Hall and Hirschman, 1991; Malamuth et al., 1993; Prentky and Knight, 1991); this lack of empathy for their victims may follow from the activation of other special psychological processes including discounting of social costs and distortions in moral frameworks. Moreover, the danger of violent sexual assaults (like other antisocial acts) is increased by those factors that make men more accepting of risk (Wilson and Daly, 1994b), and perhaps by alienation from kin. How physiological, experiential, and situational factors affect the ontogeny and functioning of these psychological processes have barely begun to be elucidated with respect to their impacts on the variable incidence of sexual assaults over place and time, and between individuals.

### **Concluding Remarks**

We believe that taking an evolutionary psychological perspective on the design and functioning of mental mechanisms facilitates the identification and analysis of both normal and dysfunctional (pathological) inclinations and behaviors. For example, the psychological adaptation of male sexual proprietariness is an evolved solution to the problem of imperfect monopolization of the mate, and is designed to attend to cues of likely usurpation and to modulate male parental investment, to deter rivals, and to limit female autonomy. We would therefore expect male sexually proprietary psychology to track ancestrally available cues of risk of usurpation by rivals, including characteristics of the mate, bachelor pressure, and the man's own mate value relative to his competition (Wilson and Daly, 1993b). Dysfunctional manifestations of male sexually proprietary psychology may result from deviations in the normal functioning of perceptual, information-processing, and behavioral-output mechanisms. For example, persons deemed to suffer from "delusional" or "morbid" jealousy are identified as such primarily on the bases of exaggerated preoccupation with sexual infidelity and/or inferring infidelity from inappropriate evidence (e.g., Mowat, 1966; Shepherd, 1961). The activation of sexual jealousy mechanisms, whether delusional or "normal," focuses specifically on the partner and/or the rival, and often results in violent inclinations and/or severe depression.

A more fully developed evolutionary psychological analysis of sexual assault homicides will frame and test specific hypotheses about developmental and situational influences on men's thresholds (both normal and abnormal) for sexual arousal and action and for use of violence, helping to identify when and where the information-processing mechanisms and emotional mechanisms underlying masculine sexual psychology and coercive psychology are likely to malfunction. The very fact that men are able to maintain sexual arousal and copulate with unwilling women requires an explanation, for such persistence without cooperation or encouragement is evidently not a universal feature of male sexual psychology

in all animal species. A comparative review of sexual assault (Mesnick, this volume) reveals that species in which male sexual coercion is prevalent are often those with intense male intrasexual competition and risk of sperm competition. Moreover, in human beings, as in all sexual species, sexual conflict is endemic. Women and men attain their wants, in part, at one another's expense. However, the costs incurred by the parties to this conflict and its asymmetries of outcome are variable, depending on differential power and leverage bestowed by such factors as one's reproductive value, and one's access to social (including familial and political) and ecological resources. By political action against femicide and other costs that men impose on women, feminism has made a substantial contribution to reducing the costs of being a woman. This agenda can be further advanced by scientific understanding of evolved psychological mechanisms, including those masculine sexual and coercive psychological adaptations whose normal and abnormal manifestations conflict with women's evolved psychological adaptations for mate choice and personal autonomy.

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