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## **Sexual rivalry and sexual conflict:**

*Recurring themes in fatal conflicts*

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### **Abstract**

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There is a cross-culturally universal sex difference in homicide perpetration, and motives of male sexual proprietariness and rivalry are implicated in some substantial proportion of all homicides everywhere. With the exception of some forensic psychiatrists, however, criminologists have paid these motives little explicit attention. Human motives and emotions have evolved by selection, and the theoretical framework of evolutionary psychology can be used to develop hypotheses about the psychological links between violence and sexually rivalrous and possessive motives in men. Violent inclinations are not simply pathological, but self-interested, although their expression is often counterproductive where social and material circumstances differ greatly from those in which the human social psyche evolved. Evolutionary psychology is also a rich source of hypotheses about how situational, economic, demographic and other factors are likely to affect men's uses of violence against wives and rivals, and hence about the sources of cross-cultural and historical variations in rates of homicide and assault.

### **Key Words**

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evolutionary psychology    male sexual proprietariness    sexual jealousy  
sexual rivalry    uxoricide    violence against wives

Violent sexual rivalry and possessiveness are perennial themes in literature and history, but they have received little attention in the academic literature on contemporary lethal violence. They should receive more. In industrialized nations, about 15 to 25 percent of all homicide victims are slain by intimate partners, and the available evidence, some of which we consider below, indicates that male sexual proprietariness is a dominant motive in the great majority of such cases (e.g. Wilbanks, 1984; Daly and Wilson, 1988; Campbell, 1992; Dobash et al., 1992; Polk, 1994), including even those in which women kill men (Daly and Wilson, 1988). Men unable to accept the alienation of their wives often kill additional victims, too, including new partners, persons who harbor escaping wives, and even the killer's own children (Wilson et al., 1995). Moreover, an unknown but possibly large proportion of the even more numerous cases in which victim and killer are unrelated men are also precipitated by sexual jealousy and rivalry (Daly and Wilson, 1988). Thus, there is reason to suspect that these motives are implicated in as many as a third or perhaps even half of all criminal homicides.

Criminological research interest in these passions has focused primarily on pathological ('abnormal' or 'morbid') jealousy (Shepherd, 1961; Mowat, 1966; Leong et al., 1994). The criminal law, however, suggests that serious violence is a 'normal' manifestation of sexual jealousy in the human male, so normal in fact as to mitigate criminal responsibility. According to Blackstone (1803, Book IV: 191-2), under English common law a man who kills upon discovering his wife in the act of adultery is guilty only of 'the lowest degree' of manslaughter 'because there could not be a greater provocation'; similarly, Edwards (1954: 900), claims that the weight of judicial precedent has determined that a 'reasonable man' is one who 'does not lose his self-control on hearing a mere confession of adultery, but he becomes unbalanced at the sight of adultery provided, of course, that he is married to the adulteress'. These notions are by no means peculiar to Anglo-American law. Similar provisions are found in the indigenous legal codes of other, very different societies on every continent, indicating that violent responses to sexual transgressions and their legitimation by authority are cross-culturally pervasive aspects of human social life (Daly et al., 1982; Daly and Wilson, 1988).

Despite some prominent claims to the contrary, there is no evidence that there has ever been a human society anywhere on earth in which male sexual jealousy and attendant risk of violence were not conspicuous. Perhaps the most famous claim of a sexually liberated paradise in which jealousy was unknown is Margaret Mead's (1931) portrayal of Samoa, a story that had little relationship to Samoan reality (Freeman, 1983) and was largely based on fabrications by Mead's schoolgirl informants (Freeman, 1989). Other such claims about other exotic societies are equally without substance (Daly et al., 1982).

Even more remarkable than the universality of jealous emotions--and even more badly misrepresented in popular and professional anthropological literature--is the cross-cultural universality of a double standard: as far as is known, the infidelities of wives are deemed more serious transgressions than the infidelities of husbands in all traditional (nonstate) societies. This empirical regularity is

apparently unacceptable to many writers, for it is often vehemently denied, despite the absence of a single counterexample. Perhaps the most influential of these false denials was provided by Whyte (1978), who reviewed ethnographies of 75 'preindustrial' societies, and concluded that 41 lacked the familiar double standard with respect to adultery. To reach this wildly counterfactual conclusion, Whyte misdefined the double standard in terms of the punishment meted out to adulterous women versus men, rather than in terms of the transgressors' marital statuses. It is indeed the case that ethnographers of many of the societies in Whyte's sample reported that adulterous women and men were punished with equal severity, up to and including the death penalty, but without a single exception, what made the act a criminal adultery was the fact that the woman was another man's wife, while the marital status of the male adulterer was in every case irrelevant (Daly et al., 1982).

Of course, the interesting issue is not whether one can dredge up some arcane exception to this (or any other) cross-cultural generalization. (The pretense that statistical regularities are meaningless if they are less than perfect is a rearguard tactic of desperate opponents of the very notion that there could be a genuine social science; see Brown, 1992; Tooby and Cosmides, 1992. This debating tactic has even acquired a name: 'Bongo- Bongoism', in honor of an imaginary tribe whose practices are the exception to every rule.) What is striking in the present context, and in need of explanation, is the fact that certain themes, preoccupations and expectations surrounding the issue of men's proprietary entitlements in female sexuality and reproductive capacity, recur across the gamut of human material and social conditions, and that there is an overwhelming sexual asymmetry in attitudes and practices in these domains. It appears that male sexual proprietariness is to some degree similarly manifest, both in private feelings and actions, and in societal norms and laws, in all human societies (Wilson and Daly, 1992).

In our view, the only plausible explanatory account of these facts that has yet been proposed is an evolutionary psychological one, which not only suggests why there may be privileged, potent psychological links between sexual rivalry, infidelity, and partner loss, on the one hand, and violent inclinations, on the other, but also provides a theory from which many further predictions about the patterned incidence of such violence can be derived (Wilson and Daly, 1993b; Wilson et al., 1997).

### **An evolutionary psychological perspective**

In textbooks of criminology, 'psychology' refers primarily to stable attributes of the person that differ among individuals, with special emphasis on those attributes that may be interpreted as abnormal deficits or pathologies. But the study of such abnormalities and of the personality attributes of individuals constitutes only a small part of psychological science, and not the part of greatest relevance for understanding violence as a social phenomenon (Daly and Wilson, 1997). Psychological science (whether "evolutionary" in its theoretical orientation or not) is a quest to discover the mechanisms and processes that cause or influence

behavior, and to characterize them at a level of abstraction that will usually apply to all normal individuals of a given sex and life stage.

Psychology is close kin to physiology and neuroscience, but it is distinguished by its focus on an informational level of description: its constructs include memory encoding and retrieval, attention processes, recognition and categorization, attitudes, values, self-concepts, motives and emotions, and so forth. Psychologists choose the level at which they formulate these constructs with the aim of finding precisely that level of abstraction at which the constructs will be of panhuman applicability, such that historical, cultural and ecological variability can be systematically explained and predicted as the contingent products of psychological processes responding to variable circumstances and experiences. All peoples are presumed to have similar fundamental mental processes of selective attention, for example, with commonalities of functional design and practical application, even though what commands their attention may vary. Similarly, anger is a motivational/emotional state which can be elicited in all normal people and which plays a role both in mobilizing physiological resources for violent action and in advertising one's likelihood of engaging in such action. More controversially, perhaps, we have proposed and will argue below that 'male sexual proprietariness' is a motivational/cognitive subsystem of the human mind whose behavioral manifestations are culturally and historically variable but are nevertheless predictably related to various aspects of the status and circumstances of the focal man, his partner, and his rivals.

The ontological status of basic psychological constructs like 'selective attention' and 'color vision' and 'anger' and 'sexual proprietariness' is as putative components of human nature. Evolutionary psychologists go on to note that insofar as these psychological entities are complexly organized, they are surely biological 'adaptations': attributes which are effectively organized, as a result of a history of natural selection, to achieve some useful function such as respiration or image analysis or the vanquishing of rivals (Williams, 1966; Tooby and Cosmides, 1992; Daly and Wilson, 1996a). The Darwinian process of natural selection is the unwitting 'designer': the force that created existing adaptations as solutions to the adaptive problems that were confronted by many generations of ancestors. 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.

The proposition that some attribute is an adaptation, is an hypothesis about special-purpose 'design', suggesting avenues of further inquiry. For example, generating hypotheses about what the heart or lungs or liver are 'for' were essential first steps for investigating their physiology (Mayr, 1983). Similarly, psychological phenomena are 'designed' to solve particular adaptive problems, and hypotheses about these adaptive functions direct the research enterprise. If we suppose, for example, that the principal function of anger is to motivate serious physical assaults, we would predict a somewhat different set of manifestations and social controls than if we hypothesize that it instead functions primarily to threaten and deter so as to limit the costs of violent confrontations.

### Sex differences in sexual jealousy and rivalry

Sexual rivalry between males is endemic to the human animal, as it is to many others (e.g. Thornhill and Alcock, 1983; Daly and Wilson, 1983, 1988; Betzig et al., 1988; Birkhead and Møller, 1992; Davies, 1992). Moreover, there are diverse manifestations that men around the world are inclined to perceive and treat women, in part, as productive and reproductive resources that warrant protective investments against the risk of usurpation (Wilson and Daly, 1992). We suggest that men's attitudes, emotions, and actions indicative of sexual proprietariness and the commoditization of women are contingent products of sexually-differentiated evolved mental mechanisms in the contexts of particular historical and cultural circumstances. The social complexity of our species, with its alliances based on both kinship and reciprocity, its moral systems and consequential personal reputations, and its cultural and ecological diversity, provides an arena within which male sexual proprietariness is diversely manifested (Dickemann, 1979, 1981). Nevertheless, a ubiquitous core mindset can be discerned from numerous phenomena that are culturally diverse in detail but monotonously alike in the abstract: socially recognized marriage, the valuation of female fidelity, the equation of the 'protection' of women with protection from sexual contact, the conception of adultery as a property violation, and the special potency of wifely infidelity as a provocation to violence (Wilson and Daly, 1992). The violent rage of a husband is a private response to a perceived threat, but acknowledgment by others that a husband was wronged adds another layer of social complexity. Indeed, entitlement and grievance would be meaningless concepts in the absence of the social complexity entailed by reputations, coalitions, and politics.

Although it is true of both females and males that Darwinian selection entails a 'zero-sum' contest for genetic posterity, the evolutionary consequences are not necessarily similar in the two sexes. Rather, these matters are sexually asymmetrical for at least two reasons:

1. male reproductive competition is more directly a zero-sum game, in which one party's gain is a rival's loss, than is female reproductive competition, which tends generally to be limited by access to resources rather than by access to mates; and
2. paternity is mistakable, so men can be 'cuckolded' into unwitting investment of their efforts and resources rearing rivals' offspring.

(These sexual asymmetries are not universal features of the male-female phenomenon, but the former is characteristic of virtually all mammals, including *Homo sapiens*, and the latter is characteristic of any mammal in which males invest in their young after conception.) These considerations suggest that motives of sexual rivalry and jealousy would have had different effects on the reproductive success of our male versus our female ancestors, and hence will have evolved to be sexually differentiated.

The proposition that men's sexual proprietariness evolved to defend their probability of paternity implies that female infidelity has been a genuine threat to male fitness. Men certainly feel and act as if there were some risk that their wives might deceive them in this domain (Daly et al., 1982; Wilson and Daly, 1992). But is their apprehension realistic or a fantastic projection?

Survey data confirm the hypothesis that although men may be more inclined to engage in extramarital sex than women, the latter are also interested. According to a 1990 British national probability survey of 18,876 men and women, for example, 19.8 percent of married or cohabiting men and 10.1 percent of married or cohabiting women reported two or more heterosexual partners in the preceding year (Johnson et al., 1994). When people are asked how much infidelity they would *like* to engage in, sex differences are typically larger, but both sexes still profess adulterous inclinations (Buss, 1994). Sex differences in morphology and physiology provide further clues that our female ancestors mated polygamously often enough for this to have been a significant force in human evolution (Smith, 1984; Wilson and Daly, 1992).

Undetected cuckoldry poses a major threat to a man's fitness. If there is a corresponding threat to a woman's fitness, it is not that she will be analogously cuckolded, but rather that her mate will channel resources to other women and their children. It follows that men's and women's proprietary feelings toward their mates are likely to have evolved to be qualitatively different, men being more intensely concerned with sexual infidelity per se and women more intensely concerned with the allocation of their mates' resources and attentions (Daly et al., 1982; Wilson and Daly, 1992).

Laboratory studies suggest that there are sex differences in both the contexts that arouse sexual jealousy and in the inclination to respond with violence. Shettel-Neuber et al. (1978), for example, had students watch a videotaped party scene and describe their own probable actions were they to find themselves in the role of a protagonist whose date was exhibiting sexual interest in a rival; men considered themselves likely to become angry, drunk, and threatening, women to cry and to feign indifference. Using a more involving and hence possibly a more ecologically valid technique, Teismann and Mosher (1978) had dating couples role-play hypothetical jealousy-inducing situations; although the situations were outlined to the subjects with perfect sexual symmetry, women and men responded utterly differently, with men's concern and distress focused on possible sexual contact between their partners and mate rivals, whereas women were primarily concerned with their boyfriends expending time, money, and attention on rival females.

A study by Buss et al. (1992) expanded on these results, by having undergraduates imagine the following dilemma:

Please think of a serious committed romantic relationship that you have had in the past, that you currently have, or that you would like to have. Imagine that you discover that the person with whom you've been seriously involved became interested in someone else. What would distress or upset you more:  
(a) imagining your partner forming a deep emotional attachment to that person;

(b) imagining your partner enjoying passionate sexual intercourse with that other person?

A total of 60 percent of the men reported that the sexual intercourse would be more upsetting, whereas 83 percent of the women chose the 'deep emotional attachment' instead, a result that has been replicated in Germany and in the Netherlands (Buunk et al., 1996). Moreover, because self-report data are vulnerable to the criticism that people might say what is expected of them rather than what they would really feel or do, Buss et al. (1992) collected physiological measures of autonomic arousal as well. Heart rate, electrodermal activity (sweaty palms), and electromyographic recordings of the corrugator supercilii muscle (furrowed brow) all exhibited greater response when men were to imagine a sexual infidelity by their partner than an emotional infidelity, whereas women showed greater autonomic arousal to the latter scenario (Buss et al., 1992).

### **Sex differences in lethal violence**

Rates of killing are hugely variable in time and space, but the rates at which men kill unrelated men are vastly higher than the rates at which women kill unrelated women, everywhere (Daly and Wilson, 1988, 1990). Many writers have attributed men's greater use of violence to some local aspect of one or another particular society, providing no candidate explanation for the phenomenon's cross-cultural generality. Others have invoked men's greater size and strength, but while this asymmetry might be relevant to differential use of violence against the opposite sex, it cannot account for a sex difference in rates of same-sex killings.

The sex-differential use of violence against same-sex antagonists appears to be one of many manifestations of the fact that the male psyche has evolved to be more risk-accepting in competitive situations than the female psyche. Evolutionary logic suggests that situationally contingent acceptance of life-threatening risks is especially likely where opting out of competition promises to yield no material or social advantage. The developmental and situational processes by which such risk-proneness is modulated may therefore be expected to be sensitive to cues of one's life prospects, cues of the predictability of continued access to material and social goods, and cues of the intensity of local competition (Wilson and Daly, 1985, 1997; Daly and Wilson, 1990; Hill et al., 1997).

It appears that variations in rates of homicide involving unrelated same-sex persons can be considered a sort of assay of competition's local intensity. Inequitable resource distribution obviously affects the local level of competition, for example, and as we would expect, it is also a good predictor of rates of lethal violence, an even better predictor in fact than measures of the average level of material well-being such as median income (Krahn et al., 1986; Hsieh and Pugh, 1993; Kaplan et al., 1996; Kennedy et al., 1996; Wilson and Daly, 1997). A greater relative representation of young adult men is also likely to exacerbate the local level of competition and it too is a predictor of collective lethal violence (Mesquida and Weiner, 1996).

Is it just that men are more violent in general, or is there some special sexual asymmetry in the role of sexual jealousy and sexual rivalry as an impetus to violence? Men's preoccupations with sexual exclusivity and sexual rivalry are dominant motives in homicides everywhere (Daly and Wilson, 1988). This is clearest in the case of spousal homicides. In intensive studies in which uxoricidal men have been interviewed by psychiatrists or criminologists trying to understand what precipitated the lethal assault, male sexual proprietariness (encompassing both concerns about infidelity and concerns about the wife quitting the union) has been found to be by far the most prevalent ostensible motivating factor, and the same issue seems to have been relevant even when wives have killed their husbands, for most such cases are described as defensive responses to assaults by proprietary men (e.g. Guttmacher, 1955; Chimbos, 1978; Showalter et al., 1980).

As we noted at the outset, the special potency of sexual jealousy and rivalry in arousing male violence has been recognized in law. Anglo-American common law, for example, specifically deems killing upon the discovery of a wife's adultery to be the act of a 'reasonable man' and deserving of reduced penalty. Other legal traditions around the world concur (Daly et al., 1982). Not only is jealousy deemed 'normal', but so even is lethal reaction, at least if perpetrated by a man and in the heat of passion. Moreover, violent sexual jealousy is deemed normal or at least unsurprising both in societies in which the cuckold's violence is seen as a reprehensible loss of control (e.g. Dell, 1984) and in those where it is seen as a praiseworthy redemption of honor (e.g. Safilios-Rothschild, 1969; Besse, 1989). The cross-cultural familiarity of jealous rages supports the view that the psychological links between mate sexual proprietariness and violent inclinations are not arbitrary aspects of particular cultures.

### **Why does male sexual proprietariness inspire violence against wives?**

Bonds of intimate partnership entail feelings of proprietary entitlement and exclusivity, and the jealous emotions are aroused specifically by encroachments thereupon. Violent motives, in their turn, function specifically to punish and deter such violations of one's interests, so it is plausible that intimate causal connections between jealousy and violent aggressiveness have evolved. Reductionistic neuropsychological approaches will shed light on these links, but one cannot even confirm that jealousy and violence are associated simply by assessing the prevalence of jealous motives in cases of violent assault because the incidence of nonviolent responses to the arousal of jealous feelings remains invisible. What one can do with criminological case data is to seek systematic patterns in aspects of the social contexts and demography of sexual jealousy and sexual rivalry homicides. What factors elevate and reduce the incidence of these cases? What characteristics of a man and his circumstances are predictive of his perpetrating violence over this issue? And what determines who will be targeted when a sexually proprietary man becomes violent? His antipathy may be directed primarily at rivals, at the person who is (or was) the object of his affection, or

both, and it is of interest to inquire whether there are attributes of the parties or their circumstances that are in any way predictive of whether the rival, the loved one, or someone else will be victimized.

We are postulating that violence against wives is a product of aggressive masculine inclinations to coerce and control wives, and that these inclinations evolved and assumed their present forms in order to deter infidelity and autonomy. At first glance, it may appear that this interpretation could only be applicable to violence that stops short of lethality. Wife murder surely requires a different account, for why would a man concerned to control and retain his wife ever kill her? But this objection presupposes that killers are more foresightfully rational than is warranted by the evidence or than we mean to imply. The proposition that motives and emotions have evolved to serve the actor's interests is not quite the same as a claim that they engender rational, purposive action. If, for example, we propose that men (and other male animals) have evolved to resent and resist sexual infidelity by their partners 'in order to' protect their paternity and promote their reproductive success, the phrase 'in order to' refers to the adaptive functions that sexual proprietariness served for ancestral males, not to intentional purpose. Thus, such considerations as the fact that a man may remain sexually proprietary after his partner is sterilized do not gainsay the proposition that the functional organization of jealous motives can be understood as contributing to personal reproductive success in ancestral environments.

In this light, uxoricides by sexually proprietary men appear to be explicable as the dysfunctionally extreme products of violent inclinations whose lesser manifestations are effective means of coercion. The proposition that lethal and nonlethal wife assault are motivationally similar is supported by similarities of demographic and other risk factors, including common law (as opposed to registered) marital status, the woman's youth, recent separation, and the presence of children of former unions (Wilson et al., 1995; Daly and Wilson, 1996a, 1996b; Daly et al., 1997). More direct support comes from case studies. Sexual proprietariness has been consistently identified as the predominant ostensible motivational factor in studies of nonlethal wife-beating, according to the testimony of both the victims (e.g. Hilberman and Munson, 1978; Rounsaville, 1978; Dobash and Dobash, 1979) and the perpetrators (e.g. Brisson, 1983), and the same motive is also predominant, but to an even greater degree, in case studies of uxoricide (Chimbos, 1978; Daly and Wilson, 1988).

In 1993, Statistics Canada conducted a national survey on violence against women in which 8385 wives (7363 in registered marriages and 1022 in de facto marriages) were interviewed about their experiences of threats and sexual and physical violence by marital partners, among other things (Statistics Canada, 1994; Johnson and Sacco, 1995). Immediately before the women were asked about their experiences of violence by marital partners, they were asked to indicate whether each of five statements applied to their partners:

1. 'He is jealous and doesn't want you to talk to other men'.
2. 'He tries to limit your contact with family or friends'.
3. 'He insists on knowing who you are with and where you are at all times'.
4. 'He calls you names to put you down or make you feel bad'.

5. 'He prevents you from knowing about or having access to the family income, even if you ask'.

Just 18 percent of the respondents affirmed that their husbands/partners engaged in one or more of these five 'autonomy-limiting' behaviors, but the incidence of each of the five increased with the severity and chronicity of partner violence (Wilson et al., 1995). We interpret these results as indicating that the same men who were relatively inclined to monopolize, control, and sequester their wives were also relatively inclined to assault them, and hence as support for the hypothesis of psychological links between proprietary inclinations and violence against wives.

So the notion that wife assault and wife murder are motivationally akin has considerable support. But what of the hypothesized functionality of male sexual proprietariness? Can nonlethal wife assault reasonably be construed as coercive and effectively self-interested? We believe that it can. Whereas men who actually kill their wives almost certainly harm their own interests (at least on average, and in nation states with third-party justice), it is far from clear that the same can be said of nonlethal wife abusers. Assaults and threats, including apparently sincere threats to kill, are highly effective deterrents and shapers of behavior, and unlike assaults or threats directed at strangers, violence against wives has had a legitimacy that has enhanced the coercive efficacy of proprietary husbands' threats (Dobash and Dobash, 1979). Abused wives are often cognizant of the dangers they would face if they left, and are thus deterred from doing so (e.g. Mahoney, 1991).

Anyone who deals professionally with domestic assaults is aware that women who leave proprietary husbands are often pursued, harassed, and threatened, and that they are sometimes killed (e.g. Mahoney, 1991; Crawford and Gartner, 1992; Wilson and Daly, 1993a). The most substantial body of data concerning lethal risk from husbands that women have left comes from the state of New South Wales, Australia. Allen (1990) reported that almost half of all slain wives in New South Wales in the 19th century were separated from their killers at the time of their deaths, and that the proportion was even higher in the 1930s. Wallace (1986) studied more recent homicides in New South Wales, reporting that 45 percent of the 217 women slain by their husbands between 1958 and 1983 had left their killers or were in the process of leaving. Moreover, 47 percent of the estranged victims were killed within two months of the separation. Wilson and Daly (1993a) computed uxoricide rates for coresiding and estranged wives in three homicide samples (New South Wales 1968-86, Canada 1974-90, Chicago 1965-90), relative to the numbers of women who were living in marriages or were separated according to census information, and in each place the risk of a wife being killed by her husband was substantially elevated after separation.

Of course, the fact that separation is temporally associated with increased risk does not necessarily mean that the link between the two is directly causal. Women might leave assaultive husbands when the frequency and severity of assaults become intolerably dangerous, and one might then expect that the period around separation could be a time of elevated risk regardless of

whether men respond violently to separation per se. Moreover, the simple fact that separated couples constitute a subset of marriages with a history of discord might in principle explain their higher homicide rates. However, case descriptions often indicate that the link between separation and murder was more than incidental (Wilson and Daly, 1993a). In an intensive local study of all uxoricides in a Canadian city during a 22-year period, for example, Daly et al. (1997) found testimonial evidence that conflict over female-initiated separation was of motivational relevance to at least 15 of the 24 registered-marriage cases (63%).

Why should a man ever be motivated to pursue and kill a woman who has left him? Such acts present a challenge to the evolutionist's expectation that motives and emotions will prove to be organized in such a way as to promote the actor's interests. Killing is a spiteful course of action, in the sense that it is likely to impose a net cost on its perpetrator as well as its victim. Moreover, we have argued that the utility of the motivational processes underlying violence against wives resides in proprietary control, and if the retention of his wife were the killer's goal, then killing her seems all the more paradoxical. Resolution of these issues is most likely to come from an improved theoretical understanding of the 'economics' of threat. A threat is an effective social tool, and usually an inexpensive one, but it loses its effectiveness if the threatening party is seen to be bluffing, that is, to be unwilling to pay the occasional cost of following through when the threat is ignored or defied. Such follow-through may often appear spiteful (a risky or expensive act too late to be useful), and yet an effective threat must convince its target that such follow-through will occur regardless. Thus, although killing an estranged wife seems clearly to be counterproductive, threatening one who might leave can be self-interested, and so can pursuing her with further threats, as can advertisements of anger and of ostensible obliviousness to costs. Effective threatening behavior must not 'leak' signs of bluff, and it has been suggested that the best way to appear sincere may be to be sincere (Frank, 1988). Even so, most men who coerce, pursue, and threaten women do not go so far as to kill them, and those who do may be considered dysfunctional over-reactors in a game of brinkmanship.

### **Sexual rivalry homicides**

Sexual rivalry is a ubiquitous and sometimes deadly source of conflict. A substantial proportion of homicides can be construed as the outcomes of dangerous confrontational competition between male rivals (Daly and Wilson, 1988). Social and material resources are usually what is directly contested in these deadly competitions, but the contestants value these resources largely as means to attract women (Betzig, 1985; Kaplan and Hill, 1985), and many of the homicides are direct conflicts over particular women (Daly and Wilson, 1988; Chagnon, 1996).

If coercive constraint and violence are responses to perceived threats to sexual exclusivity, then we would expect men to be sensitive to cues (indicators) of the current local intensity of male sexual competition and poaching. These cues might include his rate of encounter with potential rivals and evidence

bearing on how many of those men are unattached. Moreover, the arousal of sexual proprietariness is likely to be affected by cues of the status, attractiveness and resources of potential male rivals relative to oneself, since the perceived risk of alienation of one's wife presumably rises as the relative appeal of rival suitors rises.

Such ideas have rarely been considered or put to the test. However, in one study based on the same evolutionary adaptationist line of reasoning presented here, anthropologist Mark Flinn (1988) recorded the identity, whereabouts, and activities of everyone he saw during standardized scan-sampling walks in a village where 'marital' relationships were unstable and often nonexclusive and where men directed paternal investments selectively to their own offspring in matrifocal households of mixed paternity. Flinn's data showed that:

1. among couples that had nonexclusive relationships there was more agonistic interaction than among monogamous couples; and
2. interactions between a particular woman's lovers or former partners were significantly more often agonistic than interactions involving other combinations of men.

In discussions of the prevalence of different homicide motives (as well as in ordinary discourse), the terms sexual rivalry and sexual jealousy are often conflated, and they have been applied inconsistently. Sexual 'rivalry' would seem to refer to competitive conflict with a same-sex person over a real or desired mate, and in principle it might or might not involve the emotion of 'jealousy', perhaps depending on whether either party has yet developed feelings of proprietary entitlement toward the contested potential partner. But even cases in which enraged proprietary men have killed estranged wives might be coded as other than 'jealousy' cases. An apparent example is Marvin Wolfgang's classic 1958 study of homicides in Philadelphia, for although Wolfgang identified 'sexual jealousy' as homicide's leading substantive 'motive', he made 'revenge' a distinct category, and it appears that he coded what others have called 'rivalry' cases as 'jealousy', and what others have called 'jealousy' cases as 'revenge', since he wrote:

An offender motivated by jealousy and seeking to resolve an emotional problem by means of a physical assault usually attacks his rival. A jealous offender who kills his love object is most often motivated by revenge for the alienation he has had to suffer.

(Wolfgang, 1958, p 189-90)

We suspect that the word 'rivalry' has elsewhere been used mainly of same-sex competitors who are relatively symmetrical with respect to their entitlements, in that neither rival has yet 'won' the affection of the third party. But homicides that are attributed to sexual rivalry are likely to include elements of status rivalry and competition over material resources, too. In general, the study of homicide

'motives' has lacked consistent (or even discernible) definitional criteria, so that while the number of cases that get attributed to 'sexual rivalry/jealousy' seems impressive, quantitative tests of hypotheses may be misleading. Summary police synopses are not ideal sources of information on homicide motives, but they do seem to indicate a consistent directional asymmetry of violent sexual rivalry (Daly and Wilson, 1988).

### **Variations in violent sexual jealousy and rivalry**

Social phenomena vary systematically both within and between societies. An evolutionary psychological perspective can shed light on both sorts of variability in sexual jealousy, rivalry, and violence, by suggesting which social cues are likely to activate particular evolved psychological mechanisms. Whenever the relevant cues are salient, recurring, and prevalent, manifestations of male sexual proprietariness and rivalry may be expected to be diverse, culturally elaborated, and frequent.

The psychological link between jealousy and anger suggests that cues of imminent threat of loss of sexual exclusivity may be manifested in violent action. Moreover, the prevalence and intensity of such violence should be expected to reflect local sanctions. The target of a jealous man's rage may be the woman, the rival, or both, and again the target(s) may be expected to reflect sanctions as well as the social status of each party, and the circumstances of the alleged trespass in the case of sexual jealousy. We have also suggested that local cues of life trajectory and life expectancy would be relevant, because they are likely to affect men's tactics of social competition. One's rivals are likely to be relatively undeterred by the dangers associated with adulterous overtures, for example, when their own life prospects are poor, so a husband may be more proprietary in times and places of insecurity (e.g. rumors of impending war or economic disaster). Being part of a relatively large age cohort may also be expected to intensify male-male competition, especially where women of ideal age are unavailable. The impacts of cohort size on intrasexual rivalry and marital violence may be especially evident where age disparities at marriage are large so that older men are disproportionately monopolizing young women and constraining the marriage market for younger men. We would thus expect that violent sexual jealousy and rivalry would be more extreme in polygynous than in monogamous societies because of the threat posed by disenfranchised men in the former. Levinson (1989) found a significant correlation across nonstate societies between his wife-beating codes and a dimension ranging from polyandrous through monogamous to polygynous marriage. We predict that the real relationship will prove to be stronger than his results indicated, since he rank-ordered polygyny in a manner unrelated to the crucial consideration of the variance in men's access to women, and since marital polygyny is an imperfect indicator of the intensity of male-male competition.

Parameters like relative cohort size, expected lifespan, local marital stability, local prevalence of adultery, and so forth, clearly cannot be 'cued' simply by stimuli immediately available at the time of behavioral decisions. In natural

face-to-face human environments before modern media and statistics, such parameters must instead have been induced from experiences cumulated over large portions of the lifespan. This suggests that the evolved human psyche must be such as to gradually develop mental models instantiating intuitive social statistics that cannot be quickly modified or discarded, and that the 'inertial' aspects of such developmental processes may help explain why immigrants, for example, may not easily assimilate new cultures (Easteel, 1994). We make these comments to point out that treating the effects of experience in individual development as alternatives to evolutionary explanations (as is done by all who ask about the relative importance of 'nature' versus 'nurture') is erecting a false dichotomy. Many social scientists seem to imagine that if reliable developmental precursors to violent behavior could be identified, an evolutionary account would be falsified or rendered superfluous. But developmental processes and sensitivities are themselves products of evolution by selection, and sound hypotheses about the evolved functional organization of their time courses and other details are both useful tools for discovering developmental phenomena and explanatory in their own right.

### **Concluding remarks**

Violent sexual rivalry and possessiveness characterize the mindset of male killers in a substantial proportion of all homicides perpetrated in every contemporary and historical society for which relevant information is available. The importance of these motives in criminal homicides has not been generally appreciated in the development of criminological theory regarding fatal conflicts. The theoretical framework of evolutionary psychology can be used to develop hypotheses about the psychological links between violence and sexually rivalrous and possessive motives in men, as well as hypotheses about the contexts and cues which might account for cross-cultural variations in rates of male violence against wives and rivals.

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1. Darwinian 'fitness' refers to reproductive posterity, or, somewhat more precisely, to the average success of a given phenotypic design in promoting its proportionate prevalence by promoting the relative replicative success of its bearers' genes in competition with their alleles in the environments of natural selection (see, for example, Williams, 1966).

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