

3 The Evolutionary Psychology of Sex and Gender

1. Introduction

The aim of this chapter is to engage in some detail with the nitty-gritty of contemporary evolutionary psychology, especially the evolutionary psychology of sex and gender. It will be helpful to begin with a brief consideration of the distinction just invoked, that between sex and gender. The distinction originates in feminist scholarship with the insistence that gender, the differentiated roles and identities defined for men and women by particular cultures, should be sharply distinguished from sex, the supposedly universal biological differences between men and women. The central claim was simply that sex did not determine gender roles. The support for this claim was a wide variety of empirical investigations of the variability of gender roles both cross-culturally and through human history. Since it was generally assumed that biology was more or less a constant across these diverse contexts,³² this diversity seemed to show that sex did not determine gender. This led to a positive concern with how gender roles were shaped and maintained, and a political engagement with the question how they might be changed.

As I have noted in the previous chapter, contemporary evolutionary psychologists generally acknowledge some degree of variation among human cultures. As I have also suggested, this acknowledgement is not without its problems, most notably the difficulty it presents in providing empirical support for their hypotheses. And in

³² Some feminists later came to question even this assumption, and recognize a relation of mutual determination between sex and gender (see Jaggar, 1983: 109–13). In the 1990s, feminists began to argue that sex was just as much a social construct as gender (e.g. Butler, 1990). Though interesting and important, these developments do not materially affect my present points.

fact it is highly characteristic of evolutionary psychology to insist that the extent of diversity has been greatly exaggerated by anthropologists labouring under the illusions of the Standard Social Sciences Model. They delight, for example, in citing Freeman's (1983) claim to have refuted the classic ethnography of Samoa by Margaret Mead (1949), the latter having been the *locus classicus* for claims about the variability of human sexual behaviour. Evolutionary psychologists, in short, admit that variability exists on pain of empirical absurdity, but deny that there is nearly as much of it as their opponents claim.

I do not propose to attempt to adjudicate the question exactly how much variation in gender roles there may be. Fortunately it is admitted on all sides that there is a good deal of it, and this will be sufficient for the purposes of the present discussion. Evolutionary psychologists want to claim, nonetheless, that the key to understanding the various manifestations of gender in human societies is to expose the species-wide psychology of sex on which these various structures are all erected. And it is to this project that I now turn.

2. The Sociobiology of Sex and Gender: The Classic Story

The starting point for all sociobiological stories about sex and gender is with what is now taken to be the fundamental biological definition of male and female. In sexual species there is generally a large disparity between the size of the gametes (sperms and eggs) that unite to form the zygote which, in turn, develops into a new organism. Males, by definition, are the contributors of the smaller gamete, females of the larger. Introducing an economic metaphor, to which I shall return, males are said to require a much smaller investment in reproduction.³³ In most animal species, of course, this discrepancy in gamete size is only a tiny part of the difference in biological investment in reproduction: for mammals, in particular, the female contribution also includes gestation and, usually, a substantial amount of post-natal care including lactation.

This difference in investment, the story then goes, will lead males and females to pursue radically different strategies in seeking to

³³ This economic conception of the problem was popularized by Trivers (1972).

maximize their reproductive success.³⁴ Males, whose gametes are cheap and numerous, will seek to mate with as many females as possible. This will lead to various kinds of more or less violent conflict between males over access to females, reluctance to devote much energy to any one female, and, it is often suggested, various deceptive or coercive strategies in seeking matings. As Richard Dawkins puts it, 'a male . . . can never get enough copulations with as many females as possible: the word excess has no meaning for a male' (1976: 176). Females, on the other hand, have their potential for reproduction much more limited by the large investment demanded by each offspring and, given male psychology, experience no difficulty in acquiring the minimal necessary male contribution to the process. They will, therefore, rather be concerned to obtain male mating partners with the highest quality genes and, if possible, to mate with males who are willing to contribute something to the care of the offspring. Since the male, having made his small contribution to mating, has little evolutionary reason for hanging around, it is generally supposed, however, that the latter desideratum is usually unattainable. So far this story is intended to apply quite generally to sexual organisms, though with greatest force to organisms with the most disparity between the reproductive investment of the two sexes. It is also fair to say that it is a story that has provided some insight into the variety of mating behaviour observed in nature.

It is crucial to emphasize, however, the *variety* of such behaviour. There is enormous diversity among species in the degree of promiscuity or monogamy in both sexes, and enormous diversity in the ways in which different animals select their mates. This variability is fully exhibited by our closest non-human relatives. Whereas chimpanzees are highly promiscuous, fertile females generally being observed to mate with several males, and their close relatives the bonobos have become a byword for polymorphous perversity, silverback gorillas, the dominant males, enjoy exclusive access to a group

³⁴ As is customary in evolutionary discussion, I use teleological language such as 'seeking' reproductive success. It should be understood that strictly speaking all that is intended is that ancestral organisms that pursued such strategies were reproductively successful; and their more numerous descendants inherited the tendency to follow these strategies. As this makes clear, such arguments must always assume that some ancestral organisms did indeed pursue the strategy in question, and that the tendency to do so was genetically transmitted. As sociobiological thought becomes more speculative these assumptions become anything but trivial.

of females.³⁵ Thus it is extremely hazardous to infer what kind of mating behaviour to expect in a species apart from detailed and careful observation of the animals in question. This brings us to the application of all this to humans, and its problems.

Early sociobiologists exhibited varying degrees of caution in the extension of their theories to humans, but some general ideas were widely asserted or insinuated. It was taken as fairly obvious that men are inclined to promiscuity and women to monogamy, and thus that, in the words of one authority, 'In . . . all human societies, copulation is usually a female service or favor' (Symons, 1979: 202). Women, but not men, were assumed to have a biological urge to take care of children, whereas men were expected to be out in the forest—or its modern surrogate, the urban jungle—competing with one another for resources and, ultimately, access to more women. In summary, let me quote Wilson himself:

It pays males to be aggressive, hasty, fickle and indiscriminating. In theory it is more profitable for females to be coy, to hold back until they can identify males with the best genes. In a species that rears young, it is also important for the females to select males who are likely to stay with them after insemination.

Humans obey this biological principle faithfully. (Wilson 1978, 125)

Needless to say, such pronouncements reflected some widely held stereotypes. However, it was also widely perceived that such stories were extremely simplistic. The evidence on which they were based was often little more than the stereotypic impressions of sociobiologists, and little account was taken of the huge variety of human sexual behaviour, let alone variation across species. Even the underlying model, when analysed in any detail, will give quite different predictions depending upon many specific facts about the ecological situation. For example, will desertion by the male really lead to possibilities of future matings of which the reproductive benefits will outweigh the possible benefits of caring for existing offspring (Kitcher, 1985: 171)? In fact, Dawkins, sensitive to the variety of

³⁵ It is also noted that the price that gorillas pay for this glittering prize, apart from the high probability of not winning it, is unusually small testes (Short, 1977). Since their sperm is not forced to compete with that of other males for access to the female ovum, there is no advantage to having a lot of it. On the basis of ratio of testis to body weight, human males are judged to lie in between the gorilla and the chimpanzee, and it is inferred that they are by nature moderately promiscuous.

human mating practices, remarks uncharacteristically that these suggest 'that man's way of life is largely determined by culture rather than genes' (1976: 177). A quarter of a century later, however, few such doubts are entertained by evolutionists. It is to these contemporary versions of human sociobiology that I now turn.

3. Sociobiology Twenty-Five Years Later

3.1. *Épater Les Bourgeois*

Sociobiologists have always liked to shock. And the picture of the human condition they present is indeed a bleak one. While they usually insist that any possible amelioration of human ills will require the understanding of evolutionary origins, they like to make clear that the origins of these ills are deep and biological. But where twenty-five years ago these pessimistic conclusions tended to be somewhat cautious and speculative, now they are forthright and uncompromising. And nowhere are these shocking conclusions more striking than in the matter of sexuality, as can be discovered by the most casual glance through the biology section of a contemporary bookshop. One does not even need to open the books: on the cover of a book on the human male by British biologist Ben Greenstein, we read:

First and foremost, man is a fertilizer of women.³⁶ His need to inject genes into a female is so strong that it dominates his life from puberty to death. This need is even stronger than the urge to kill . . . It could even be said that production and supply of sperm is his only *raison d'être*, and his physical power and lust to kill are directed to that end, to ensure that only the best examples of the species are propagated. If he is prevented from transmitting his genes he becomes stressed, ill, and may shut down or go out of control. (1993)

Opinions may, I suppose, differ as to what constitute the 'best examples of the species'. In a slightly more temperate work by the respected evolutionist David Buss (1994; a book which will provide

³⁶ Connoisseurs of sexist language will find this sentence truly breathtaking. If man (generic, surely) is a fertilizer of women, to what species do these beneficiaries of fertilization belong?

my main focus in much of what follows)³⁷ we also find a depressing message on the dust jacket:

Much of what I discovered about human mating is not nice . . . In the ruthless pursuit of sexual goals, for example, men and women derogate their rivals, deceive members of the opposite sex, and even subvert their own mates. (1994)

The emphasis on deception in sexual interactions is a major theme in current biological thought. There is little room for sentimental moralizing in a matter of this importance.

More disturbing still, perhaps, are the following remarks by science journalist and enthusiast for evolutionary psychology, Robert Wright: 'the roots of all evil can be seen in natural selection. . .The enemy of justice and decency does indeed lie in our genes' (1994: 151). It is no doubt true that if we hadn't evolved we wouldn't do anything nasty. But apart from that rather trivial sense of the 'roots of all evil', it might seem that there are a lot of more immediate sources. But biology, we discover, teaches us that the derelict inner cities, unemployment, and exploitation that we might naively have thought sources of human evil are at most triggers for eliciting our deeply ingrained natural tendencies.

Uniting the popular themes of sex and violence, Buss suggests that men may have an evolved tendency to kill their unfaithful wives under appropriate circumstances (1994: 130–1). If he has anyhow lost control of her reproductive resources he can prevent their being diverted to an evolutionary rival. He may mitigate the great loss in status accruing to a cuckold, and status is important for getting other reproductive opportunities. And—plausibly enough—this will serve as a deterrent to other concurrent or future wives. Wilson and Daly (1992) develop this theme in more detail in terms of their elaboration of the evolved tendency of men to treat women as property.

³⁷ At the time of writing this was the authoritative work on the evolutionary psychology of sex. As I was finishing the manuscript Geoffrey Miller's *The Mating Mind* (2000) appeared, which may come to supersede Buss's book in this dubious role. Miller's book is based on the interesting thesis that the evolutionary explanation of large human brains is a process of runaway sexual selection. I find this thesis quite plausible. It would seem, however, that such an aetiology would make it very unlikely that anything much could be predicted about the behaviour the brain would be liable to emit. The central point about sexual selection is that just about anything can be selected. Disappointingly, then, a quick glance through Miller's book suggests that it recapitulates most of the usual sociobiological claims about sexual behaviour.

They note that some American states until recently treated the killing of a wife discovered in adultery as no crime, and that ‘the violent rages of cuckolds constitute an acknowledged risk in all societies, and some sort of diminution of their criminal responsibility is apparently universal’ (311). Certainly it is not a pretty picture of our evolutionary heritage.

3.2. The Political Economy of Sex and Gender

As I have already remarked, the sociobiology of sex differences has been informed from the outset by an economic metaphor, that of ‘parental investment’ (Trivers, 1972). The economistic³⁸ aspects of the field have grown in recent years, and may now fairly be said to dominate it. The central locus of quasi-economic interaction has become the decision to mate. Buss (1994; subsequent page numbers are for this work) entitles two major chapters of his book ‘What Women Want’ and ‘Men Want Something Different’. Evidently we have the classic preconditions for exercise of the fundamental human disposition to—in Adam Smith's famous words—‘truck, barter, and trade’, and an obvious grounding for the treatment of human relations as a marketplace that has inspired some economists interested in these matters. This perspective naturally invites a consideration of the features men and women will be prepared to pay for in a mate, and his book, Buss notes in the introduction, ‘documents the universal preferences that men and women display for particular characteristics in a mate’ (8). Put simply, what men want is sex with as many women of as high a quality as possible,³⁹ and women want to get paid for it. Prostitution, one might say, is the biologically fundamental form of interaction between men and women.

To consider in more detail what women want, their central problem is one of choice among universally eager men. ‘Men vary tremendously in the quantity of resources they command—from the

³⁸ In parallel with my use of the term ‘scientism’ for the view that everything can and should be understood in terms of science (generally quite narrowly conceived), I use the term ‘economism’ to refer to the application of economic thought beyond its original home in the theory of the production and distribution of commodities. The idea will be central to the discussion in Chapter 6 of the extension of economic thinking to inappropriate areas of human behaviour.

³⁹ High- and low-quality people are also a central concept for the explicitly economic treatment of sex by Gary Becker (1981 /1991); this is discussed further in Chapter 6.

poverty of the street bums to the riches of Trumps and Rockefellers' (Buss, 1994: 23). And, needless to say, this problem is greatly exacerbated by the fact that men will do everything in their power to misrepresent the resources they control in the attempt to dupe women into accepting a less affluent contender than they might otherwise have traded their sexual resources to. In addition, men differ in their willingness to devote their resources to one woman and her children, as to whether, as Buss puts it, they are 'dads' or 'cads'. And again, needless to say, the cads will do everything to convince the gullible woman that they are really dads. (What is not always clear is why there should be any honest dads out there.) The main problem for women, then, is to identify and secure the resources of a Rockefeller dad. Thus women are said to look for various cues in men that signal either the possession, or the likelihood of acquiring, resources.⁴⁰ In the former category they prefer, for example, men in suits to those less expensively dressed (101),⁴¹ and also have some preference for men who are older and consequently better heeled (27–8). In predicting future resources, they look for ambition, industry, stability, and intelligence. Women also like a good physical specimen. Apart from the more minimal requirement that their partners be free of open sores and lesions, universally regarded as unattractive (41), women like their men tall. As an extreme illustration of this point, Buss observes that 'when the great basketball player Magic Johnson revealed that he had slept with thousands of women, he inadvertently revealed women's preferences for mates who display physical and athletic prowess' (38). (It might be noted that Magic Johnson did also have some modest resources.) Less anecdotally, but relevant, I suppose, to Magic Johnson, Buss quotes research that is said to show that 'tall men make more money . . . [and] advance more rapidly in their professions' (39). Moreover, they tend to have prettier

⁴⁰ Buss reports (24) that women value resources in a mate about twice as highly as men do (the exact number is of course an artefact of his survey design). Given, first, that women in most societies have fewer resources and, second, that women often anticipate dependency on the financial resources of their mates, this is not an observation in obvious need of a deep biological explanation.

⁴¹ 'The same men were photographed wearing either a Burger King uniform with a blue baseball cap and a polo-type shirt or a white dress shirt with a designer tie, a navy blazer, and a Rolex watch' (101). One can't help admiring the attention to detail in the experimental design. 'Based on these photographs women [all women?] state that they are unwilling to date, have sex with, or marry the men in the low-status costumes, but are willing to consider all of these relations with men in high-status garb.'

girlfriends (Buss, 40, citing Ellis, 1992). Apparently this preference for size is not sufficiently explained by the greater resource-acquisition potential of taller men. In addition, women want big men for protection, not a bad idea given the bleak picture of men shortly to unfold.⁴²

Finally, in addition to money and size, unless a woman is looking for a fling (something to which I shall return), there is the problem of sorting out the dads from the cads, since the cads, once they have had their way with her, will take off with their resources. What they look for here is signs of love. In all cultures, Buss asserts, women desire love. 'Love is universal' (42). 'To identify precisely what love is', Buss himself has studied 'acts of love' (43). Typical of these are 'talking of marriage, and expressing a desire to have children with the person' (43). The somewhat banal function of these acts of love, when performed by a man, is 'to signal the intention to commit resources to one woman and her children'. Once again, we might worry that the cads are sure to talk the same talk. Indeed in more traditional accounts, this is just what cads are known for.

Men, as I have noted, want something different. The first few sub-headings in Buss's chapter on this topic will leave no doubt what this is. They are: 'Youth'; 'Standards of Physical Beauty'; 'Body Shape'; 'Importance of Physical Appearance'; and 'Men's Status and Women's Beauty'. Men, in short, want their women young, cute, and curvy. Evolutionarily, of course, the claim is that men want good breeding stock; and they are prepared to pay for it, even sometimes the high price of (almost) monogamous commitment. That a younger woman will have the potential of producing more children, at least, is not controversial. More surprising, especially to those who have analysed the cultural construction of standards of beauty, is Buss's insistence that these standards are cross-cultural universals. Our ancestors, apparently, needed to assess women for their youth and health. All they had to go on were such features as 'full lips, clear skin, lustrous hair, and good muscle tone . . . a bouncy youthful gait, an animated facial expression, and a high energy level' (53). Somewhat more peculiar is the allegedly universal preference for curves; or, more specifically, a ratio of waist-to-hip measurement of about 70 per cent (57; Singh, 1993). Whatever this supposedly optimal

⁴² Though as Philip Kitcher suggested to me (in correspondence), bigger men may also present more of a risk of physical violence to their mates.

body shape may show about youth or health, it does, of course provide some useful evidence that the woman is not already pregnant.

This brings us to the one other thing men care about, fidelity. The evolutionary fate worse than death is to invest one's resources in the offspring of another man's genes. Indeed at one point Buss seems to think it appropriate that cuckolders should be required to pay compensation to the victimized husband since this 'reflect[s] an intuitive understanding of human evolutionary psychology: cuckoldry represents the unlawful stealing of another man's resources' (140). Fidelity, however, can be difficult to predict in a potential mate. There is apparently a correlation between premarital and post-marital promiscuity, which suggests that a good cue would be to seek out hitherto chaste women. Oddly, however, while apparently men used to care a lot about this, they do so increasingly less: they still care more in Texas than in California (67), but in Sweden they now care scarcely at all (69). But as I have already noted, evolutionary psychologists are now quite complacent about such minor refutations of their theories. Buss seems happy, in this case, to provide an uncharacteristic cultural explanation of these anomalies.

So far I have considered the generic account of the economic trade between men and women, but with my reference above to the political economy of sex and gender I had rather more in mind. This was made strikingly clear a few years ago when in the course of about a year three long articles on the evolution of human sexual behaviour were published in the prestigious journal *Behavioral and Brain Sciences*. The first presents evidence intended to show that men are attracted to younger women, increasingly younger as they age, and that women are attracted to somewhat older men (Kenrick and Keefe, 1992). The second concerns rape. Specifically, it argues that men have a variety of evolved sexual strategies, and one of these, usually resorted to when others fail, is rape (Thornhill and Thornhill, 1992). The third documents the female preference for men of high status (Pérusse, 1993). Putting the three theses together presents a very simple politics of class and gender: with the acquisition of high status, men have increasing access to women, especially the younger ones they prefer; the lower-status men, having little legitimate access to women, will resort to rape.

These class implications of Buss's story occasionally emerge in striking ways. As mentioned above, the status or quality of both men

and women is often crucial to the analysis. For example, 'Men of high status typically insist on more stringent standards for a spouse than most women are able to meet' (50). However, they are 'willing to relax their standards and have sex with a variety of women if the relationship is only short-term and carries no commitment' (50). Occasionally the class markers are more detailed. At one point, for example, Buss describes the predicament of a woman in a singles bar rebuffing the approach of a 'beer-drinking, T-shirted, baseball-capped, stubble-faced truck driver or construction worker who asks her to dance' (144). His angry response, 'What's the matter, bitch, I'm not good enough for you?', is, of course, exactly correct. Buss, I imagine, hopes that she has secured a sufficiently tall protector if she later encounters this low-class specimen in the alley outside the singles bar. Such class stereotypes will strike many readers as quite as disturbing as the gender stereotypes developed throughout the work.

3.3. Methodology

Reading these accounts of male–female relations, one is struck by a mixture of the stereotypic, the outrageous, and the banal. One should not, however, suppose that these are merely the ungrounded speculations of an evolutionist who might better have stuck to ants or seals. I have remarked that evolutionary psychologists do often acknowledge some greater responsibility for presenting empirical data than did earlier sociobiologists, and the claims just cited are constantly buttressed with impressive arrays of empirical data and research. Buss's book synthesizes a thriving and sizeable industry of evolutionary psychological research. Buss reports his own production of thousands of questionnaires on what men and women find attractive in members of the opposite sex, what they take to be significant 'acts of love', and so on. In many, though not all, cases data are offered from a variety of developed and developing countries and from tribal societies, grounding claims of the universality of the phenomena he describes. These are not, it seems, the opinions of an isolated researcher.

Having acknowledged this much, however, closer examination of the empirical data often proves rather disappointing. It will be useful to divide this evidence into categories, which I shall label the absurd, the banal, and the mildly interesting. I shall begin with the absurd.

Perhaps the most glaring example of the absurd is the research,

widely cited by evolutionary psychologists, on the hypothesis that men have a mental module the function of which is to measure the waist-to-hip ratio of prospective female sexual partners. The conclusion of this research is that men have a consistent preference for a waist-to-hip ratio of 0.7. The evidence for this curious conclusion is derived first by showing men line drawings of women of various shapes, and asking them which they found most attractive. The presupposition that one could make judgements of this sort on the basis of a line-drawing already incorporates a view of sexual attraction on which it is perhaps politer not to dwell. To buttress this important result, researchers spent painstaking hours poring over back runs of *Playboy* magazine measuring the vital statistics of the models there portrayed with calipers, and again discovered the magic number 0.7 for the waist-to-hip ratio. Since, presumably, the selection of these models reflects men's innate ideals of female pulchritude, the daring hypothesis is further confirmed. Sometimes it is asserted that this shape is also correlated with maximal fertility, though I have not seen, and prefer not to imagine, the research on which this is based. The absurdity of the argument from this evidence to the hypothetical mental module is sufficiently obvious from the fact that evolutionary psychologists much more confidently insist that men are hard-wired to prefer women at the beginning of the fertile stage of the life-cycle. Since hourglass figures are commonest among young, sexually mature women, the results in question would be expected simply as an epiphenomenon of this prior assumed preference. It is, I suppose, possible in principle that men estimate waist-to-hip ratio as a way of detecting young fertile females. But apart from the fact that the research does nothing whatever to support this hypothesis, it seems a highly improbable conjecture. One of the more plausible specialized mental functions of the human brain is the ability to analyse human physiognomy, and it seems unlikely that this undoubted facility would not serve to identify a face as belonging to a young female. Perhaps in the case of androgynous young faces, a glance at the overall shape might be of further assistance in disambiguation. This merely points to the hypothesis that there are a variety of physical cues that have some relevance to the classification of people by age and sex, and that very plausibly people have an ability to integrate a range of cues. A module basing this judgement on a single not entirely reliable gross feature of shape seems otiose.

Equally absurd, though rather less innocuous, is some of the

research into the claim that men have a module that directs them, under appropriate circumstances, to rape women. One major source for the claim that rape is a natural male mating strategy derives from experiments done mainly on prison inmates (a questionably representative sample of the population²), referred to in the scientific jargon as 'objective phallometry' (Thornhill and Thornhill, 1992). In these experiments prisoners were made to watch filmed depictions of coercive sex, with instruments attached to their penises that recorded their sexual response to these movies. One variable found relevant to the degree of response was the extent to which the victim enjoyed the incident, a dimension that many experts on this topic would perhaps not consider very relevant to the real experience of rape. Even ignoring problems such as this and assuming that these prisoners were sexually aroused by plausible depictions of rape, the inference that they were disposed to rape has all the persuasive force of the assumption that overweight middle-aged men showing objective signs of excitement in front of their televisions on a Sunday afternoon are disposed to play professional football. (In fairness I should note that Buss, unlike Thornhill and Thornhill, remains agnostic as to whether an evolved strategy of rape has been clearly established [1994: 163].)⁴³

Turning from the absurd to the banal, the important point to emphasise in this category is that it consists of claims that most people already believe. The importance of this is that hypotheses that are banal in this sense cannot be taken to illustrate the heuristic usefulness of evolutionary psychology for generating hypotheses. Such hypotheses could just as readily be generated from a casual interview with the person at the next stool in your local bar. In this category are the claims that men prefer somewhat younger female partners and vice versa for women. Of course the fact that such hypotheses are banal doesn't mean that they may not be true, and if they are true it may be a legitimate scientific project to enquire why they are true. I say only 'may be' because there is a subcategory of the banal for which the search for explanation seems wholly redundant. I have in

⁴³ Miller (2000) argues that rape was unlikely to have been common in the Stone Age. He is required to make this argument, since his central thesis is that sexual behaviour evolved largely in response to female choice among mates, something that would be ineffective if women were commonly subject to coerced sex. Though his arguments here seem plausible enough, I note this fact mainly as an illustration of the ease with which arguments can be made up on both sides of questions about Stone Age life.

mind, for example, Buss's suggestions that evolution has predisposed people of both sexes to prefer partners who are intelligent and kind. The consideration that it might be more amusing to spend a substantial portion of one's life with an intelligent person than with a dullard seems to me to make redundant the speculation that intelligent partners may have been better at distinguishing edible roots or avoiding sabre-toothed cats. But the claims about age preference do seem to provide a sensible occasion for seeking explanation.

The evidence that these preferences are manifestations of innate mental modules is, however, disappointing. The research mentioned above (Kenrick and Keefe, 1992), for example, is based substantially on the analysis of singles advertisements. As with prison inmates, if placers of singles ads form a representative sample of the population, this is something that needs to be demonstrated. But there is a much more fundamental and pervasive problem. These ideas are, as I have said, banal. Most people in most societies think that these kinds of preferences are 'normal' or 'natural'. The media constantly represent couples in which the man is older, often much older. A man of 65 marrying a woman forty years younger excites only mild surprise, and men of that age are sometimes found playing romantic leads in Hollywood movies paired with much younger women. Reversing the gender roles in such scenarios is considered extraordinary. It is reported that typical members of contemporary Western societies watch several hours a day of television, and this points to an obvious way in which such clichés might affect people's assumptions about the normal or the natural. These platitudes might, of course, be platitudes because of imperatives written in our brains by our distant past. But they might also reflect, for example, the fact that men have much greater power in most societies, and the right to youthful partners is one of the exercises of that power. It is not my aim to defend that, or any of an indefinite range of alternative hypotheses one might imagine as to how these social expectations became banal. I want only to point out that the evidence, for example the answers to the questionnaires designed by Buss to elicit the sexual preferences of large numbers of men and women, do nothing to discriminate between these different kinds of explanation. Such raw data are entirely silent on the aetiology of the preferences Buss and others claim to discover. Since in most cases these preferences are clichés—women should be young, narrow-waisted, inexperienced, etc., men should be tall, affluent, sophisticated, perhaps a bit older and more

experienced, etc.—it takes little imagination to come up with much simpler explanations than the trials and tribulations of our distant ancestors.

I should perhaps respond at this point to the inevitable tired reaction that I am assuming the Standard Social Sciences Model, a view of the mind as a blank slate on which culture can write as it chooses. I am, of course, assuming nothing of the sort. People certainly have minds of sufficient structural complexity to acquire the dispositions, attitudes, and varieties of behaviour that they in fact acquire. How much structure, and what kind of structure this is, I do not pretend to know. Part of the advantage of my position over that of evolutionary psychologists is just that they do pretend to know. But more important still, there is no reason at all to suppose that a structure that is sufficiently complex to allow human behaviour to be learned will narrowly constrain the kinds of behaviour that can be learned even if, as is by no means uncontroversial, the structure evolved to facilitate fairly specific behaviours that were useful to our Stone Age ancestors. To invoke the computer analogy generally much admired by the scientifically inclined, the fact that the innards of my computer are highly structured doesn't prevent them from carrying out a remarkably diverse set of tasks. And the fact that much of the underlying technology was developed with military applications in mind doesn't entail that my computer is constantly on the verge of planning a nuclear attack, or designing some instrument of mass destruction.

To the obvious objection outlined above, that the evidence adduced in no way favours the hypotheses of evolutionary psychologists over a range of alternative and perhaps intuitively more plausible explanations, one response is to appeal to a range of cross-cultural data. If the same psychological phenomena are found in very diverse cultural contexts, should we not conclude that the phenomena are biologically generated? But this presents problems of its own and although, as I have mentioned, the data that underlie Buss's claims are sometimes collected cross-culturally, very little sensitivity can be discerned to the difficulties of making the relevant cross-cultural comparisons. For example, his insistence that love is a cross-cultural universal is not supported by any discussion of how relevant, and surely quite complex, concepts might be translated unambiguously across cultures. Of course, since he takes love mainly to consist of a disposition to say 'I'd like to marry you and have children

with you', the problem may seem to be somewhat mitigated. But in fact this raises another deep difficulty. One of the conclusions that evolutionary psychologists would like to establish is that important anthropological concepts such as 'marriage' have a universal, cross-cultural meaning, a meaning grounded in our evolved psychology.⁴⁴ But this is a thoroughly implausible assumption. Anthropologists describe systems of 'marriage' that are monogamous, polygamous, occasionally polyandrous, hypergamous or hypogamous (women marrying up or down in status, though equal status is said to be the commonest case), between people of the same sex, and in some cases as not involving sexual relations at all. And of course there is a wealth of particular rules and expectations surrounding these diverse social institutions. Even within 'Western' culture, the implications of marriage in, say, rural Ireland and Southern California are quite different.⁴⁵

I do not take this diversity to rule out the possibility that these various social institutions may nevertheless reflect the same underlying universal psychology. What I do claim is that evidence about marriage in diverse societies offered in support of such a hypothesis cannot, on pain of blatant question-begging, start with the assumption that these different forms of marriage are fundamentally the same thing. It should finally be added that to the extent that relatively straightforward cross-cultural translation of such concepts is legitimate, it is very likely to be because the cultures concerned have had a good deal of mutual interaction. And of course if this is true, then the value of cross-cultural data is proportionately reduced. And surely the large majority of contemporary cultures do share, to a considerable extent, values shaped by exposure to the same transnational media. It is typical of this kind of work that massive

⁴⁴ It is fascinating to note that in their theoretical discussion considered in the previous chapter, Tooby and Cosmides explicitly disavow such universality, since 'purely behavioral categories are seldom able to capture meaningful species-typical uniformity' (1992: 64). However, later in the same volume we read 'Marriage is a cross-culturally ubiquitous feature of human societies' (Wilson and Daly, 1992: 309). This contradiction should be no surprise. As I have noted, taking seriously the complexity of the relations between alleged universal psychology and cultural context would make it difficult or impossible to draw any meaningful conclusions from the behavioural research that occupies evolutionary psychologists when they are not theorizing.

⁴⁵ For nuanced discussions of some of these social arrangements around sexuality and gender see, for instance, Ortner and Whitehead (1981). It is also worth noting that for a substantial proportion of the world's population marriages are arranged by families.

collection of data occurs without any real sensitivity to the problems in interpreting the data. Thus the data underlying Buss's story range from the questionable to the ludicrous. As I shall argue in the final part of this chapter, even where the data are clear-cut, there are deep problems in drawing from them the kinds of biological conclusions that Buss wants.

This brings me, finally, to the category of mildly interesting data. Here what I have in mind are empirical results that confirm evolutionary psychological hypotheses that are to some degree surprising (and hence do not belong in the category of the banal). These, as far as I can discover, are thin on the ground. The element of surprise might be in the fact that the hypothesis is confirmed at all, or in the extent of its confirmation. I know of no clear-cut case of the first kind, though probably the best candidate is the research by Leda Cosmides showing that people were much better able to perform simple logical inferences when the subject matter concerned the application of social rules than when it concerned an arbitrary topic. The experiments were a version of the well-known Wason selection task (Wason, 1968). Subjects were given a statement of the form 'If P, then Q', and then shown cards on the visible side of which were statements P, not P, Q, and not Q. They were then asked which cards they would need to turn over to see whether the two sides together constituted a refutation of the statement. Since the statement is only refuted by the conjunction P and not Q, logic requires that the cards P and not Q are turned over. In general subjects proved quite bad at solving this problem where the statement involved, for example, geometrical patterns (e.g. 'If one side of the card has a square then the other has a circle'). Cosmides was able to show that when the statement under test had the form of a social rule, subjects did much better. For a rule such as 'If someone is drinking beer, then they must be over twenty', and shown cards marked 'drinking beer', 'drinking Coke', '25 years old', '16 years old', subjects generally managed to identify the first and last card as loci of possible violations (Tooby and Cosmides, 1992). Cosmides takes this as confirming her hypothesis that there is a mental module serving social cooperation and specifically designed to detect cheats who violate social rules.

I do not want to deny that this is an interesting result, and one that calls for some explanation. The problems, unfortunately, are ultimately just as serious as for the banal cases. Children are constantly exposed to social rules, criticized for violating them, and praised or

rewarded for conforming to them. As Cosmides's results confirm, they become very competent at identifying violations of such rules. How could we infer from this the existence of a specialized mental module that produced this result? Explanations have been constructed that assume no such special-purpose module, for example by Patricia Cheng and Keith Holyoak (1989). Tooby and Cosmides (1992) have attempted to show that their data rule out such interpretations, but Elisabeth Lloyd (1999) makes clear that these arguments fail. As Lloyd shows, ultimately Cosmides's argument must fall back on a claim about what must have, or would have been very likely to have, evolved in conditions supposed to have obtained in the Stone Age. But as I have tried to explain in detail, evolutionary theory just can't do this sort of work. Cosmides's research provides an interesting result for cognitive psychology, but does nothing to settle questions about the extent of innate structure in the brain.

The most striking quantitative surprise claimed to the credit of evolutionary psychology is the data from Daly and Wilson on the discrepancy in the amount of violence to children perpetrated by step-parents and biological parents. No one would be surprised to learn that there was some such discrepancy: most of us are familiar with the sad plight of Cinderella, and the idea that her situation is a not uncommon one perhaps belongs in the category of the banal. Daly and Wilson (1988), however, showed that using actual homicide as an index of violence against stepchildren or adopted children, the occurrence of this was many times that for biological children. There is no doubt that there are social factors that would predict some of this difference. Perhaps there are biological grounds for the prevalence of the view that 'blood is thicker than water', but it is at any rate a view widely held to be true. And no doubt it is widely assumed that there is a natural human goal of producing and raising one's biological offspring. Equally true and important is the fact that for every child murdered by its step-parents there are hundreds or thousands brought up by step-parents who provide just as much care and love as most biological parents. So we have a rare but horrible breakdown of the norm of parental care that occurs much more frequently for non-biological than for biological parents. We have some obvious cultural factors that go some way to account for this discrepancy, but perhaps not far enough. Any parent will testify that it is easy enough to see why, if one did not feel affection towards children, one might well murder them. So perhaps there is a biological disposition to feel

affection for one's own offspring that helps to prevent this unfortunate outcome. On the other hand, it must be reiterated that in the vast majority of cases this biological deterrent is redundant, as shown by all the non-biological parents who show no disposition to murder their children. It is entirely unclear what inference should be drawn about the nature and action of whatever innate disposition one may have to care about the genetic origins of one's children.

A final point is worth mentioning. Recent research, no doubt disturbing to many men, has suggested that somewhere in the region of 15 per cent of children were not in fact fathered by the men who take themselves to be the biological father. It would, no doubt, be a persuasive bit of evolutionary psychological evidence if these men were found much more likely to commit violence on their children. But in the absence of such evidence, I conjecture that such a correlation would hold only to the extent that these men knew or suspected that they were not the biological fathers. If that is the case, then the phenomena under consideration work through conscious cognition.⁴⁶ And that, in turn, suggests that they should be susceptible to the influence of social norms. This is not, of course, an argument against there being a biological component to what is, certainly, an evolutionarily fundamental social relationship. I do want to insist, however, that the evidence under consideration licenses no compelling conclusions about the innate structure of the mind.

4. Further Reflections on the Poverty of Evolutionary Psychological Inference

In this section I shall further explore the difficulties in the attempt to infer from psychological phenomena to evolved functional components of the mind. First, however, I would like to mention another strategy somewhat notoriously connected with sociobiological thinking, the comparison of human behaviour with that of the behaviour of other species. Sociobiologists have often been accused, and often with justice, of supporting their arguments by appeal to any convenient non-human species that happened to behave in an apparently analogous way. Thus, for example, scorpionflies and

⁴⁶ If my hunch is wrong, of course, that would indeed provide genuinely persuasive evidence for an unconscious, perhaps even innate, mental mechanism.

ducks have figured largely in discussion of the alleged biological roots of rape.⁴⁷ In criticizing such strategies it has been noted first, that the examples were often arbitrarily selected; and second, that only in the crudest analogical sense could, for example, the behaviour of copulating flies be related to that of human rapists. It is fair to say that contemporary evolutionary psychologists depend less heavily on this strategy than their predecessors, in part, of course, because they claim much more data derived directly from the study of humans. However, animal analogies still play an important rhetorical role in this work, and sometimes seem all the more bizarre for their lesser frequency.

To take a few examples from Buss: 'Women, like weaverbirds, prefer men with desirable nests' (7); or, 'Like the male roadrunner offering up his kill, men offer women resources as a primary method of attraction' (100); and 'humans' ways of solving the adaptive problem of keeping a mate are strikingly similar to insects' (124). The latter include such methods as physically carrying the female off to some place less frequented by competitors or, which sounds to me distinctly unlikely as a human strategy, shedding their broken-off genitalia after copulation to seal off the reproductive opening of the female. I shall not dwell on this issue because, as I have noted, it does not play an obviously central role in the kinds of arguments I am considering. No doubt part of the function of this constant ornamentation of the text with these more or less fanciful parallels is to remind the reader that the author is, after all, doing no more than taking seriously the fact that we are ultimately just animals. Whether anything much follows about any specific kind of animal merely from the fact that it is, ultimately, just an animal is another matter.⁴⁸

The empirical detail characteristic of contemporary sociobiology raises a further difficulty that I want to stress. A common objection to earlier variants of sociobiology was that their accounts of human behaviour were massively simplistic. Modern evolutionary psychology has partially responded to this objection, and provided

⁴⁷ See Fausto-Sterling (1985) for trenchant criticism.

⁴⁸ I do not, of course, mean to deny that there is a role for comparative phylogenetic studies in establishing the adaptive nature of traits. But this role requires evidence that a trait is homologous between related species. Trawling through the animal world for analogous traits, as in the examples in the text, has no such value. As Jonathan Kaplan (in correspondence) has emphasized to me, the unusual lack of close relatives of humans makes the legitimate strategy largely unfeasible.

accounts that allow for more complex and varied behavioural strategies. But in doing so it has exposed even more clearly than before the difficulty, emphasized many years ago by critics such as Gould and Lewontin (1979), that the theory is almost infinitely malleable and consequently empirically empty. To consider one example, early emphasis on the evolution of pair-bonding as well as on a male tendency to promiscuity seemed to some not only simplistic, but also as verging on the inconsistent. The obvious difficulty derives from the tautological, but still sometimes neglected, observation that the total number of matings by males and females is identical. Given that there is an approximately equal number of heterosexual males and females, the average number of matings per male and female will also be the same. (It is true that the proportion of males does tend to decline with age, but not to an extent that is relevant to the general point.) And, since at least the Kinsey Reports, it has been scientifically well established that humans, in both sexes, are variably but moderately promiscuous animals.

The more empirical turn in contemporary evolutionary psychology has taken account of these facts. In place of earlier monolithic theories of the sexual predilections of men and women they have suggested a repertoire of evolved sexual strategies. (The suggestion that rape is an evolved alternative sexual strategy for otherwise unsuccessful men is an example of this manoeuvre.) Typically, the idea is that in addition to psychological mechanisms designed to promote pair-bonding, humans have alternative strategies for engaging, under appropriate conditions, in casual sexual liaisons. Within the evolutionary framework it is not difficult to see why men should be said to have evolved this strategy, either before or after engaging in pair-bonding. However, recalling again the tautology mentioned in the previous paragraph, some account is required of why women might cooperate. In fact, without some chance of finding amenable women, there is no evolutionary explanation of the male tendency to casual sex: looking around for opportunities for casual sex when none are to be found is, presumably, a mere waste of resources and should be penalized by evolution. Thus a major growth industry in evolutionary psychology is the provision of explanation for female proclivities towards casual sexual encounters.

Unsurprisingly, the main thrust of such explanations is once again economic. Apart from prostitution in the strict sense, women are perceived as providing themselves with insurance against the provisioning

inadequacies of their principle mate. Buss spells out the prehistoric scenario:

Imagine a food shortage hitting an ancestral tribe thousands of years ago. Game is scarce. The first frost has settled ominously. Bushes no longer yield berries. A lucky hunter takes down a deer. A woman watches him return from the hunt, hunger pangs gnawing. She makes him an offer for a portion of the prized meat. Sex for resources, or resources for sex—the two have been exchanged in millions of transactions over the millennia of human existence. (1994: 86)

In slight twists on this simple economic tale, women are said to be providing insurance (their mate may lose status or command of resources or, for that matter, die, so they are establishing connections with possible replacements) or to be setting up a network of provisioners.

A different kind of story suggests that women may perceive that the man who is the best provider that they can secure may not have the best genes they can attract. Thus they might attempt to get their genes from a different source.⁴⁹ In support of this hypothesis, empirical evidence is said to show that married women usually have lovers of higher social status than their husbands; that they arrange trysts with their lovers disproportionately while they are ovulating; and that they have more orgasms with their lovers than with their husbands. (Female orgasm is now said to cause more sperm to be retained in the reproductive tract.) Husbands, incidentally, are said to respond by ejaculating higher numbers of sperm when their wives have been out of their sight, thus attempting to swamp the contributions of their suspected competitors.

A rather more bizarre explanation of female promiscuity might be called the self-appraisal theory. In the context of the general economic metaphor, it is important for a woman, especially, to have an accurate idea of her market value. By engaging in a series of casual sexual encounters she can, on this account, 'obtain valuable information about the quality of the men she can potentially attract' (Buss, 1994: 89). She thus avoids the twin dangers of selling herself short, and of holding out for more than she can command. (The fact that,

⁴⁹ This ingenious, if Macchiavellian, strategy is attributed to various bird species. See Wilson and Daly (1992: 292–7) for an account of avian sexual shenanigans in the swallow and dunnoek, and numerous further references.

according to another part of sociobiological theory, she will, as a consequence of her value-appraisal exercise, also reduce her value by becoming more sexually experienced, creates the sort of problem beloved of mathematical economists.)

These various accounts illustrate plainly the ease with which evolutionary stories can be constructed. Early sociobiological intuitions about female monogamy are readily superseded by a host of complicating adaptive considerations. With sufficient ingenuity multiple possible evolutionary benefits can be imagined for almost any form of behaviour. And this, of course, shows only that such stories should be treated with great scepticism. This scepticism should be amplified when, as in the present case, a whole series of alternative stories are offered for the same supposedly evolved behaviour.

But perhaps an even more important point is the way in which the attempt to accommodate the empirical variability of human behaviour leads to the introduction of ever more flexible, and arguably ad hoc, auxiliary assumptions. If a behaviour is thought to be more or less universal across cultures it is because it evolved. If there is an exception (such as the lack of concern by men about premarital female promiscuity in Scandinavia) it is because there is sensitivity to cultural influences. As Buss puts it, 'some preference mechanisms are highly sensitive to cultural, ecological, or mating conditions, while others transcend these differences in context' (1994: 254). It is, of course, equally possible that the social conditions that encourage some of these preferences are currently less variable than those that support others. At any rate, it is clear that once these strategies are admitted to be subject to cultural influence, any amount of variability will be fully explicable within the sociobiological paradigm. And as is a familiar truism in the philosophy of science, a theory that can explain anything explains nothing.

The ease with which evolutionary psychologists can accommodate data is strikingly illustrated in a paper by Bruce Ellis commenting on the fact that in questionnaires women, contrary to evolutionary prediction, claimed to attach little importance to either dominance or social status. Ellis offers four possible explanations: they may mistakenly have supposed that the men were disposed to dominate them rather than other men; they may be reluctant to admit that they prefer such men; they may prefer such men but be unconscious of the preference; or their assumed reference class may only include high-status men, among whom details of status will not

be important (Ellis, 1992: 282). Perhaps so. But philosophers of science have long seen such multiplication of auxiliary hypotheses, hypotheses introduced solely to account for a failure of match between theory and actual experience, as the main symptom of a theory in decay. In the terminology of Imre Lakatos (1978), these are the signs of a degenerating research programme—if, indeed, such a judgement does not imply more antecedent progressiveness than is evident.

Let me conclude this section with a brief comment on the great difference between the context in which, according to evolutionary psychologists, the psychology of sex evolved and more modern conditions. Even if our hypothetical cavemen ancestors selected mates solely on the basis of their reproductive potential, things have got a bit more complicated. So-called trophy wives would not, perhaps, be accounted trophies if there were not some recognized virtue to mere youthful good looks; but a trophy wife seriously deficient in intelligence, charm, good manners, etc. would, I suppose, be as often an embarrassment as a prize. Prudent mate-selection, that is to say, involves a wide range of factors, many of which have nothing whatever to do with purely physical attractiveness. Although evolutionary psychologists do mention a range of such factors, the attempts to explain the importance, for example, of intelligence or kindness (Buss, 1994: 34–5, 45) in terms of effects on fertility are both implausible and redundant.

Of equal importance is the fact that mate-selection, in the sense of selection of a long-term partner for the bearing and rearing of children, is hardly the sole context in which modern humans make judgements about the attractiveness of other people. Whether or not this was true of our less sophisticated ancestors, contemporary humans are interested at different times in a variety of different kinds of relationships with members of the opposite sex (or, in many cases, the same sex; though how this relates to the present issue is obviously problematic). They may seek friendship, casual sex, a brief romance, lifelong companionship, a co-parent for their children (existing or yet to be born), a status symbol, a domestic drudge, and so on. Presumably the relevance of prehistoric whisperings concerning reproductive potential will vary considerably from one to another of these cases.

These considerations emphasize why, regardless of evolved psychology, we should be in no way surprised that sexual behaviour is

highly varied, and hence reinforce the impossibility of inferring the evolved psychology from behavioural data. This can be best seen in terms of a very general worry about the allegedly massively modular mind. However modular the mind may be, the output of such modules must somehow be integrated into some broader process in which whole human beings come to make decisions, and must be capable of weighing modular outputs differently according to different ends to which the decision-making process may at any time be directed. There must be some part of the mind in which it is possible to decide whether to pursue a potential mate or forage for carrion in the nearest fast-food outlet. Suppose, for the sake of argument, that there is indeed a mechanism in the human brain that disposes men to select very young women or girls as ideal mates. Given that this atavistic mechanism provides only one of a range of inputs into actual processes of mate-selection, and given that mate-selection, in the sense assumed by evolutionists, is only one of a range of kinds of behaviour in which this hypothetical machinery might figure, it is not at all clear that identifying such machinery will tell us anything much about the behaviour or even behavioural dispositions of modern humans. At the most, we might learn something about psychopathology: the maladapted mind, the mind unable to function in the conditions in which it finds itself, is perhaps a mind constantly and uncontrollably driven by atavistic urges from its evolutionary past. The healthy mind, the mind that despite its Stone Age origins functions effectively in the complex context of modern life, is another matter.

In summary, then, the evolutionary psychology of sex and gender offers us mainly simplifications and banalities about human behaviour with little convincing illumination of how they came to be banal. It offers us no account of the great differences in behaviour across cultures, which is exactly what we might want to know if we were interested in exercising any measure of control over the changes in these phenomena. It offers no account of why different people develop such diverse sexual proclivities (notoriously, it has nothing but the most absurd evolutionary fantasies to offer in explanation of homosexuality). And it offers no account of how the complex motivations underlying sexual behaviour interact with the pursuit of the many other goals that inform the lives of most humans. In fact it offers us nothing, unless perhaps a spurious sense of the immutability of the behaviours that happen to characterize our own contemporary

societies. This is scarcely the revolution in our understanding of human behaviour so enthusiastically advertised by the exponents and camp-followers of evolutionary psychology.

I have looked at just one area of evolutionary psychological speculation, though perhaps the most active one. But most of the difficulties discussed would apply in very similar ways to other areas to which such methods might be directed. Cultural variability and individual variability can be found in most interesting domains of human behaviour, and all areas of behaviour come about as the upshot of complex negotiations between motivations of various kinds. Evolutionary psychology has provided no resources for dealing with problems of these kinds. In relation to the illumination of the real complexities of human nature, the programme may be declared bankrupt.