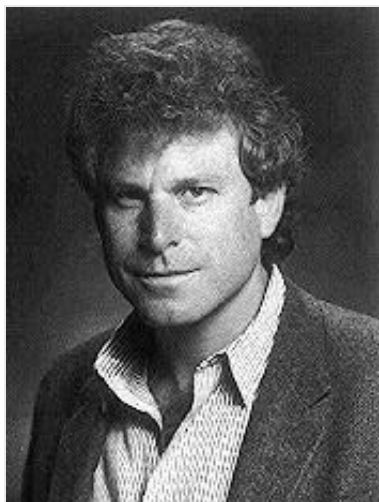


In conversation with David Buss



David Buss's 1995 book *The Evolution of Desire* put Darwin's theory of sexual selection to the human test, and proved conclusively that there's more to sex than gender. *the evolutionist* spoke to him about the impact of his work, the alternative view of the swinging sixties, and the future of the evolutionary enterprise.

the evolutionist: What has been the response to your book?

David Buss: Well I've had a pretty big reaction - I've had hundreds of letters from all sorts of people, some scientific, some wanting advice with their mating life, some nut cases who have come out of the woodwork with their own theories. There's also been a tremendous flurry of national magazine, newspaper, TV and radio interest.

the evolutionist: How much has that got to do with the fact that the book was about sex?

Buss: There have been a lot of books written about sex that don't get that kind of attention. Sex is a sexy subject, but I think it had more to do with the amount of empirical data I included. I also think there's been an increasing excitement about evolutionary psychology that just wasn't there five years ago. It's begun to percolate down to the public.

the evolutionist: Have you had any academic objections to your conclusions?

Buss: Yeah, there have been some but none terribly serious. Basically in the book I argued that men and women both have long-term mating strategies and short-term mating strategies, and which one they use or which mixture of strategies they deploy depends a lot on factors such as their circumstances, their mate values, their age and the social conditions under which they find themselves. There were a couple of little commentaries in a journal called *American Psychologist*. One woman argued that both men and women are entirely monogamous and said "What is this business about short term mating and extra marital affairs?" But the other commentator wrote and said both men and women are basically into short-term mating and "what is this business about long-term mating?" - so they contradicted each other, cancelled each other out. It's hard for people to think complexly about the topic but the fact is we have a complex repertoire of mating strategies.

the evolutionist: It's surprising that there's been so little objection bearing in mind that there's a whole industry of academia based on the claim that there's no difference between the sexes - that it's all about gender. Are you surprised by the lack of criticism?

Buss: There's such a large amount of empirical evidence that it's hard to argue with - I did the 37 culture study, with more than 10,000 subjects, specifically for that reason. I knew that the findings

were going to be controversial and if I just had 12 cultures someone would say, "but you didn't study the Bongo Bongos in Northern South Swahili", so I waited, took a long time, and got samples from everywhere that I possibly could. On social science standards it's unprecedented - most people have their 100 college sophomores and try to generalise from that. The result of this mountain of evidence is that there has been widespread acceptance of my findings. If you look at the psychology text books, *Introduction to Psychology*, *Introduction to Social Psychology* and the *Introduction to Personality Psychology* - they all have sections on evolutionary psychology and cross cultural studies of sex difference in mating.

"the notion that we *are* our evolved mechanisms is alien. To think otherwise requires a leap of faith"

Five years ago, none of these texts had anything about evolution. There's been a massive change; an acceptance of at least certain aspects of evolutionary psychology that have never been accepted before. Psychologists in general tend to be very empirically minded and so they want to see the data, and at least the more reasonable ones are persuaded by data. There are still people that, despite the evidence, will claim that the sexes are identical. You can go around psychology departments in the US and find many people - especially those who are very ideologically motivated - who will just dismiss it, say "the study was done by a male and therefore I refuse to believe it". That position is getting harder because these results have now been replicated by independent investigators. But I've been pleased with the overall speed with which these things have been accepted. I thought it would take a lot longer.

the evolutionist: Has there been any more work in the area since your book was published? How has it fitted in with your original thesis?

Buss: There's been a lot more research done on sexual jealousy, the importance of short term mating, as well as all the Baker & Bellis work on sperm competition - which suggest a long evolutionary history of non-monogamy. You now have these physiological clues like sperm volume, the different ways in which sperm works and different physiological mechanisms in both men and women to deal with sperm competition. And then at my level, the psychological level, you have the work on sexual jealousy; you have behavioural evidence that infidelities and short-term matings occur in every culture; just as long-term matings - or marriage - is also a universal. I don't think there's anything that I can think of in the book that has turned out to be false. That was possible because I do speculate about some things in the book and I do go beyond the data. Things have been elaborated and there's a lot more known

the evolutionist: Incidentally, were you able to offer any advice to people who wrote in with marital problems? Apart from: "Read the book!"

Buss: Right! I'm not really in the business of giving advice but I'd argue that more knowledge is always - or usually - better than a lack of knowledge. Understanding the underlying psychology of mating and sex differences could help men and women to understand each other. For example, one of the things I

talk about in the book is the sex difference in the inferences people make about sexual intent on witnessing a smile. When a woman smiles at a man, men are more likely to infer that the woman is sexually interested - or have a lower threshold for making that inference - than are women. It's clearly part of men's short-term mating strategy and facilitates initiating short-term attempts. But knowledge of this difference can perhaps help the sexes to clear up some misunderstandings. Men get upset because they feel like the woman's been leading them on. Women feel that men are being too sexually aggressive and misreading their signals. Greater knowledge can help reduce some of this sort of conflict. But I'm not really in the advice-giving business.

the evolutionist: Does knowledge take the romance and mystery out of love?

Buss: Not really. People have asked me that and they've asked me how it affects my mating life. Other than being more aware of certain things, it doesn't make that much difference. All the evolved emotional adaptations - which include love: a set of emotional and cognitive adaptations that kick in only in the context of a long-term mating; the feelings of passion, the feelings of devotion, the feelings of commitment - are activated in sophisticated evolutionary psychologists just as they are in everybody else. If you were a nutritionist, would eating a cookie taste any different to you? Of course not. It still tastes sweet if it has sugar in it.

the evolutionist: You've made a point of saying you're an evolutionary psychologist not a sociobiologist. Why is that?

Buss: I call myself an evolutionary psychologist because I am a psychologist who believes that the evolutionary approach has a tremendous amount to offer the understanding of psychology. In fact I think it's an indispensable tool for the understanding of psychology. Within the field of those who study evolutionary behaviour there are differences in opinion or differences in theoretical orientation. The terms 'evolutionary psychologist' and 'sociobiologist' are broad and vague, so any statements you make are going to blur these differences.

Nevertheless, one key difference has to do with the emphasis on psychology. Evolutionary psychologists believe that psychology - meaning our information processing mechanisms - are the primary locus of adaptation and that *that* is a level that cannot be skipped or bypassed. It is essential to describe those psychological mechanisms.

"there are very good adaptive reasons why you don't want other people to predict your behaviour"

In earlier generations some of those who called themselves sociobiologists bypassed the psychological level and tried to generate principles about overt behaviour from principles of evolution. But the same principles of evolutionary biology generate very different outcomes depending on what those evolved psychological mechanisms are. For example, there are certain domains in which men and women have different psychological mechanisms and in those domains the same inputs will produce different

outputs. There's only one way you can understand the same inputs producing different outputs and that's by understanding that the mechanisms are different. Hence it's absolutely critical to characterise what those mechanisms are.

The second difference is more difficult to explain but it has to do with the assumptions - sometimes implicit sometimes explicit - about the nature of evolved mechanisms. Some sociobiologists - although not all - have assumed that humans and other organisms have as a goal the desire to maximise gene-replication, reproduction or fitness. Evolutionary psychologists believe that such a domain general goal could not have evolved and cannot form part of the system either consciously or unconsciously. There are a variety of reasons for that argument: one is that you can't track fitness in the course of one lifetime; second, what constitutes fitness differs if you're a male or female, an infant, an adolescent or adult, and depends on context, species and ecological conditions. So in principle, there is no domain general way to maximise fitness. All that selection can produce is more domain specific mechanisms.

Some people have conflated the causal process that produces adaptation with the nature of adaptation itself. Obviously, differential reproduction is, by virtue of design differences, the causal process that produces adaptation. But that doesn't mean that the process equals the adaptation. And nor does the fact that humans are the product of natural selection mean that their goal is to 'out-reproduce' others. I think it's a predictable conflation based on our evolved psychological mechanisms. Part of our 'theory of mind' is concerned with motivation. We think: "if differential fitness is the process, then people will have as motive the desire to embody this process." We mistakenly think in motivational terms even in contexts where it doesn't apply. We look at the sky and say "the sun is trying to break through" or "it's wanting to rain". We attribute desires to things that obviously don't have desires. This conceptual error is in part hitch-hiking on this evolved mechanism.



the evolutionist: You've written that we need to understand the "psychological obstacles" to accepting evolutionary theory. Can you give examples?

Buss: Well, there are very predictable sources of resistance to evolutionary psychology. At the end of *Origin of Species*, Darwin said that psychology will be based on a new foundation - and he was right. But that was 1859 - 137 years ago. So why is evolutionary theory the dominant paradigm in the entire field of the biological sciences, but not in the social sciences? We are biological after all - there's no separate causal process that created us. To understand the slow take-up of evolutionary ideas, you have to understand the sources of resistance to them - and there are many. One frequent objection comes from mistakenly believing that anything biological means that we're doomed to an unalterable fate. Evolutionary psychology has shown that this is a mistake because it highlights the exquisite context sensitivity of our evolved mechanisms. We're not lumbering robots, insensitive and oblivious to the environment, as some people mistakenly believe. Second, people are worried about anything that

threatens to predict their behaviour, because if you can predict someone's behaviour you can control it. There are very good adaptive reasons why you don't want other people to predict your behaviour. If you're a football player and you know exactly what the opposing team is going to do, you'd be able to destroy them. One of the key insights of evolutionary psychology is that humans have inherent conflicts of interest with other individuals, with members of their own family, with members of the opposite sex, and members of their own sex. If someone you're in conflict with can better predict your behaviour you'll encounter what is called strategic interference. You're at a disadvantage.

"what is taught in main stream social science to millions of people across the United States is outrageous"

We have evolved mechanisms to prevent others from totally predicting our behaviour. The most obvious example is facial expressions, remaining stoic, trying to conceal your emotions. So there's a resistance to any theories that offer truly penetrating insights into human nature. Whether that resistance can be overcome or not I don't know. People don't like it, they're worried about it.

There's just a lot of misunderstandings about what evolution is, and it's irritating. If you or I went to speak to a physicist, for example, we wouldn't presume to argue with them about quantum mechanics. Even if we'd read a couple of newspaper articles about it, we wouldn't feel qualified. But even after the most superficial reading - a few newspaper or magazine accounts - people feel they know exactly what evolution is and that they can argue with you. In fact there's a tremendous body of technical knowledge that has to be mastered to really understand this field - that's not something you can do in an afternoon. The feeling that you can make do with a superficial understanding leads people to make a lot of mistakes: people think it's genetic determinism but it's not; they think human behaviour is intractable or unchangeable, whereas the opposite is true, the more knowledge you have the more you'll be able to change it.

the evolutionist: Surely that change is limited by a given set of behavioural parameters?

Buss: Absolutely, no amount of knowledge will enable us to turn our arms into wings, or echo-locate like bats. In terms of behaviour I think those parameters are quite wide. It's far easier to change behaviour than the underlying mechanisms or desires. I might enjoy eating sweet and fatty foods but decide that I want to lose some weight, or it's bad for my health. So I'll override those desires and I won't eat that sort of stuff. This doesn't mean the desires have gone away, just that I've been able to override them with other desires. So I can change my behaviour - but it's much more difficult to change the underlying desires. From that perspective the range of possible behaviours - the parameters - are very wide. It's the tremendous complexity of our evolved psychological apparatus that gives us such enormous possibilities.

the evolutionist: In that example what is the "I" that is doing the choosing? Is it another evolved module?

Buss: Not only do we have desires but we have evolved hierarchies of desires that change from moment to moment and day to day. So if you're hungry, and at the same time you're confronted with a very attractive mate and there's a snake creeping up on you - you now have sexual desires, appetitive desires and the desire to get away from the snake. Which do you do first? Clearly we must have evolved decision rules for pre-empting other desire sets. Get away from the snake first, then eat. Or, the mate's going away, maybe you'd better stay hungry and mate. I think there are 'executive mechanisms' whose function is to regulate the operation and sequencing of the other mechanisms. 'Meta-mechanisms' you might call them.

the evolutionist: So when people say they're going to resist the temptation to eat cakes - is it an expression of one of these 'meta-mechanisms'?

Buss: I think it is. People have a desire to be healthy, they also have a desire to maintain their social reputation. In America, being over-weight causes a loss in status and reputation, and also has negative health consequences, so people have those desires that override their desire to eat. It's just the same with sexual desires: we might be walking down the street and see a person we're attracted to. Well, we don't just grab that person and try to mate with them. There are other desires, such as the desire to avoid damaging our reputation - not to have the group come down on us like a ton of bricks - that cause us to inhibit our desires or to find ways of expressing them without losing status or reputation.

the evolutionist: What happens to 'free will' in that cross-fire of different desires?

Buss: People seem to want to feel they have free will. We do have the subjective sense that we - and not anything else - control our destiny. The notion that somehow our genes or our evolved mechanisms are controlling us - or that we *are* our evolved mechanisms - is alien. In that sense, to think otherwise requires a leap of faith. Anyway, another frequent source of objection is ideological, and there are several aspects to it. People assume that evolutionary psychologists are somehow conservative or reactionary. First of all, it's simply not true - within the evolutionary community you have the whole spectrum of political positions, there's no unanimity, it's not even an issue.

"what we're saying is: there are ducks"

Another facet of the ideological resistance is the belief that acceptance of evolutionary psychology will cause people to become hopeless about the possibilities of change. As I said earlier, that's also an error as more knowledge of our evolved mechanisms will help change - if you want to change. You could argue that ignorance of these mechanisms is disastrous for the possibilities of change. A third aspect of resistance - which is only in part ideological - is that many people are committed to equality, and yet there's the notion that we value people differently. In my work on mating there's a very profound message that says, "well actually, we have evolved mechanisms for valuing some individuals differently than others". Or, Eugene Burnstein uses the example of a burning building where you only have time to rescue one person - your brother, your cousin, your next door neighbour - who do you save? The

responses are very predictable with kin: the higher the degree of relatedness the more likely you are to engage in dangerous forms of helping behaviour. That says that people have intrinsic qualities, and that we have evolved mechanisms for valuing some individuals highly and other individuals not at all. That violates the democratic assumption that people want to have.

the evolutionist: Is that another evolved mechanism?

Buss: I don't know. In this respect I've had success in communicating my work to people who are less educated. I think - and this may slide off into another source of resistance - the resistance to evolutionary thinking is correlated with the number of years of education you have, at least in America, in the social sciences. In my opinion, what is taught in main stream social science to millions of people across the United States is outrageous: that there are no sex differences; that everything's arbitrary; and that we're blank slates on which culture, our parents and our teachers write the contents. I think it's awful that the teachings that are now known to be wrong - the myths of social sciences - are perpetrated on people. The more years of education you have the more they cling to these myths. I've actually been thinking about a book called "The Myths of the Social Sciences", exploring the myth of culture as a causal explanation. But I don't think they're necessarily evolved mechanisms: when I talk about sex differences to people who haven't gone to college they don't have any problems with the idea - they've observed them themselves. Even when you talk about selection, they have no trouble grasping the idea. There's a certain amount of 'educational inertia'.

There's a joke that says "if a social scientist witnesses something that looks like a duck, walks like a duck, and quacks like a duck, then he says it's a social construction of a duck". What we're saying is: there are ducks. They have describable features. Not everything is a social construction in the mind of individuals. That's not to say that we don't socially construct things; just that the things we socially construct are not arbitrary.



the evolutionist: At the end of *The Evolution of Desire* you speculate how aggregate mating strategies lie behind social phenomena, such as the 'permissive society' of the late sixties. Can you talk me through that?

Buss: In the economics of the mating market, whenever there is a surplus of one sex, the other sex is in a better position to get what they want. If there are 100 men and 200 women, men will be in a much better position to get what they want than women will be to get what they want. Secondly, it's very well documented that men have a greater desire for sexual variety, for a larger number of sex partners. One way to describe it would be to say that short-term mating looms larger in men's repertoires than in women's. What that means is that whenever there's a surplus of women in the population there will be more of a shift towards short-term mating. Men will be able to get short-term matings and will be reluctant to commit to long-term matings, and women will have little choice but to adopt a short-term

mating strategy if they want to be involved with men at all. The third factor to bear in mind is that men desire women who are younger, and women desire men who are older. Across the 37 cultures, women, on average prefer men who are three to four years older; but, with men, it varies with increasing age so as men get older they want women who are increasingly younger than they are. So fifty year old men want women who are thirty five. So, you take this sex difference in age preference and add a baby boom, you get a mismatch in the population.

"evolutionary psychology has a cumulative quality - the mark of a mature science"

When the baby boomers reach sexual maturity, since women desire men who are older, the pool of men they desire is much smaller, and so for these men who were born just before the baby boom, there's a surplus of women. So you'd expect to see a lot more short-term mating going on in that group. And that coincides with what happened in the sexual revolution of the late sixties and early seventies - a surplus of women reaching sexual maturity. At the tail end of the baby boom you get just the opposite effect - women born at the end of the baby boom have many more older men to choose from. Each individual is just trying to get what they want and it aggregates up at a population level - it's not that the whole group decides, "OK what are we going to do, short- or long-term mating?". You do see a retreat from the sexual revolution - certainly around the end of the seventies, or the beginnings of the eighties, it was over. But if you talk to men who were in that position of having a surplus of women they get this glazed look in their eye as they reminisce about the "good old days". They talk about having sex with a different woman every day. Men born at other times don't. There was also an ideology among women that it was good to throw off the shackles of the up-tight, middle-class, parental generation; that becoming emotionally involved with someone was somehow being 'hung up' or 'neurotic'; or being jealous was an immature emotion. Women did experiment with short-term mating and many decided they just did not like it - they didn't feel comfortable. Another thing that confounds the situation was the widespread dissemination of birth control - the pill - and that reduced one facet of the cost associated with short-term mating.

the evolutionist: So what would you expect men to be doing after the baby boom?

Buss: I would expect them to start giving off a lot of cues to long-term mate potential, cues to commitment, devotion... You'd get very stable marriages, a lower divorce rate, and those men lucky enough to get a wife would be very strong in mate guarding and would do whatever they can to keep her. The other thing is that the sex ratio changes as you age, and so it's not something that has gone away. Men die off quicker as they get old, and, if you look men who are divorcing, they are going on to marry women who are increasingly younger than they are. So when women get into their thirties and forties, the sex ratio begins to get worse. When the thirty five year-old's husband divorces her to marry a twenty eight year-old, there's one less man in the pool that's available to her. And that effect grows stronger and stronger with increasing age. Men marrying women who are younger and younger are

getting leached from the mating pool. The older women are faced with a dearth of men. It's not a situation that goes away. Some have even speculated this produces profound intrasexual competition.

the evolutionist: I don't know if you're aware of the backlash against the New Man we had in the media over here. There's been a flood of magazines and television programmes celebrating the distinct features of "maleness" - ogling, drinking, fighting, playing football... It's interesting that evolution-inspired explanations might be able to cut through a lot of the waffle surrounding these social phenomena. Maybe you should pick up a copy of *loaded* before you leave - purely for sociological research reasons of course.

Buss: Absolutely, you have to keep up to date. When I come here [UK] I get all the schlock newspapers - *The Sun*, *The Mirror* - to keeps tabs on what's going on. I do the same thing in the States, you have to keep in touch with popular culture. I subscribe to eighteen different magazines, including women's titles like *Cosmo*, all of them.

the evolutionist: So what are you working on at the moment?

Buss: The two things that are occupying me most at the moment are: first, the topic of conflict between the sexes. In the book I have one chapter on it, a hefty chapter, but there's a lot more to be said about it. We've been doing a lot of research into various aspects of conflict between the sexes. For example, studying jealous conflict in more detail, looking at the characteristics of the rivals, sexual harassment, sexual coercion, trying to understand the underlying psychology of conflict between the sexes - the underlying emotions that get triggered when certain facets of strategic interference come into play. So that's one whole line of research and we're looking at that both in America and cross-culturally. Second is a huge study that I've been doing for a long time, but haven't yet published, on status, prestige and reputation. This continues work that started out in the mating domain. I want to identify what I call 'prestige criteria'; these are the dimensions along which status can increase or decrease. So I've assembled 240 of these 'prestige criteria' - things like showing cowardice, showing bravery and so on. Some things - like having sex with three partners over a weekend - will affect a man's status differently to a woman's. The logic is this: we live in a social world, we're constantly monitoring our status and reputation and also the status and reputation of everyone in our social group: who's going up, who's going down; who's losing face, who gaining in stature. So status, prestige and reputation are tremendously important, and enormously consequential, but we don't know what causes a person's position to rise or fall within the group. I see these criteria as the backbone of the status system in the same way as our desires are the backbone of the mating system. Our desires for a mate determine the entire mating system - who we go after, which tactics of attraction are effective, which tactics are used in mate retention as opposed to mate expulsion, what causes conflict between the sexes, and so forth. Everything flows from the desires in the mating domain. In an analogous way, a lot will flow from the underlying prestige criteria of human groups. So far I have data from 12 different cultures around the world - China, Korea, Japan, Guam, Transylvanian gypsies, Brazil - and I'm

waiting for data from two more African countries. Then I'll publish.

the evolutionist: As evolutionary psychology is a study of mental modules and how they all fit together, it's interesting that a similar thing seems to be happening with the discipline as a whole. The Baker and Bellis work fits in with your work on desires, and you might say the Daly and Wilson stuff on homicide was looking at the tail-end of some of these status behaviours.

Buss: It all dovetails very nicely. Evolutionary psychology has a cumulative quality. It's one of the marks of a mature science.

the evolutionist: What kind of things do you hope people will start working on? What will signify that it continues to be a healthy discipline?

Buss: There are a lot of exciting areas to work in - I wish each of us working in the area could have an army of people to help us, because there's so much to be done. If I were to single out some of the important areas that are relatively unknown - some of which have been theoretically covered at this conference [*CIBA Conference on Characterizing Human Psychological Adaptations, London, 28th-31st October, 1996*] I'd say: the psychology of kinship, which is almost completely untouched - Martin Daly and Margo Wilson have put forward a paper outlining what some of the most likely hypotheses would be; the psychology of coalitions is an extremely important area, which John Tooby and Leda Cosmides have started to explore. This applies to much more than warfare; forming coalitions is a pervasive human tendency that goes on all the time in every office, every university department, every business. There's a tremendously rich and articulate evolved psychology of coalition formation. This includes ostracising cheaters, doing things to increase the cohesion of the group, as well as the tendency to make in-group/out-group distinctions: we tend to treat benevolently those within the group and treat abhorrently and aggressively those who are outside. Notice that these things are all about relationships whereas most psychology has nothing to say about relationships. Humans evolved in small groups where relationships were everything. So the five most important pinnacles of this would be: mating; coalitions; friendships; kin; and social hierarchies, in terms of status, prestige and reputation. In ten years time I hope we know as much about those other domains as we now know about mating, and I hope we quadruple our knowledge about mating. We have not, by any stretch of the imagination, finished on that. As much work as has been done on mating, I still feel that we know five, maybe ten, percent of what there is to know about the evolutionary psychology of mating.

the evolutionist: About one of the species.

Buss: Yeah, but one that we care about a lot.

the evolutionist



(The interview was conducted in London, October 31, 1996.)