

and left him exposed on a mountain. Oedipus was found and raised by shepherd and then adopted by the king of Corinth and brought up as his son. On a visit to Delphi, Oedipus learned that he was fated to kill his father and marry his mother, so he left Corinth vowing never to return. On his way toward Thebes, he encountered Laius and killed him in a quarrel. When he then outwitted the Sphinx, his reward was the throne of Thebes and the hand of its widowed queen, Jocasta—the biological mother he did not grow up with. They had four children before he got the bad news.

But the ultimate triumph of the Westermarck theory has been pointed out by John Tooby. The idea that boys want to sleep with their mothers strikes most men as the silliest thing they have ever heard. Obviously it did not seem so to Freud, who wrote that as a boy he once had an erotic reaction to watching his mother dressing. But Freud had a wet-nurse, and may not have experienced the early intimacy that would have tipped off his perceptual system that Mrs. Freud was his mother. The Westermarck theory has out-Freuded Freud.

MEN AND WOMEN

Men and women. Women and men. It will never work.

—ERICA JONG

Sometimes, of course, it does work. A man and a woman can fall in love, and the key ingredient is an expression of commitment, as we saw in Chapter 6. A man and a woman need each other's DNA and hence can enjoy sex. A man and a woman have a common interest in their children, and their enduring love has evolved to protect that interest. And a husband and wife can be each other's best friends, and can enjoy the lifelong dependability and trust that underlies the logic of friendship (more on this later). These emotions are rooted in the fact that if a man and woman are monogamous, together for life, and not nepotistic toward their own families, their genetic interests are identical.

Unfortunately, that is a big "if." Even the happiest couples can fight like cats and dogs, and today fifty percent of marriages in the United States end in divorce. George Bernard Shaw wrote, "When we want to read of the deeds that are done for love, whither do we turn? To the murder column." Conflict between men and women, sometimes deadly,

is universal, and it suggests that sex is not a bonding force in human affairs but a divisive one. Once again, that banality must be stated because the conventional wisdom denies it. One of the utopian ideals of the 1960s, reiterated ever since by sex gurus like Dr. Ruth, is the intensely erotic, mutually enjoyable, guilt-free, emotionally open, life-long monogamous pair-bond. The alternative from the counterculture was the intensely erotic, mutually enjoyable, guilt-free, emotionally open, round-robin orgy. Both were attributed to our hominid ancestors, to earlier stages of civilization, or to primitive tribes still out there somewhere. Both are as mythical as the Garden of Eden.

The battle between the sexes is not just a skirmish in the war between unrelated individuals but is fought in a different theater, for reasons first explained by Donald Symons. "With respect to human sexuality," he wrote, "there is a female human nature and a male human nature, and these natures are extraordinarily different. . . . Men and women differ in their sexual natures because throughout the immensely long hunting and gathering phase of human evolutionary history the sexual desires and dispositions that were adaptive for either sex were for the other tickets to reproductive oblivion."

Many people deny that there are any interesting differences between the sexes. At my own institution, students taking Psychology of Gender used to be taught that the only well-established difference between men and women is that men like women and women like men. Symons' two human natures are dismissed as "gender stereotypes," as if that were proof that they are false. The belief that spiders spin webs and pigs don't is also a stereotype, but is no less true for that. As we shall see, some stereotypes about sexual feelings have been verified beyond a reasonable doubt. In fact, researchers in sex differences have found that many gender stereotypes *underestimate* the documented differences between the sexes.

Why is there sex to begin with? Lord Chesterfield noted of sex that "the pleasure is momentary, the position ridiculous, and the expense damnable." Biologically speaking, the costs are damnable indeed, so why do almost all complex organisms reproduce sexually? Why don't women give virgin birth to daughters who are clones of themselves instead of

wasting half their pregnancies on sons who lack the machinery to make grandchildren and are nothing but sperm donors? Why do people and other organisms swap out half their genes for the genes of another member of the species, generating variety in their offspring for variety's sake? It's not to evolve faster, because organisms are selected for fitness in the present. It's not to adapt to environmental change, because a random change in an already adapted organism is more likely to be for the worse than for the better, there being vastly more ways to be badly adapted than to be well adapted. The best theory, proposed by John Tooby, William Hamilton, and others, and now supported by several kinds of evidence, is that sex is a defense against parasites and pathogens (disease-causing microorganisms).

From a germ's point of view, you are a big yummy mound of cheesecake, there for the eating. Your body takes a different view, and has evolved a battery of defenses, from your skin to your immune system, to keep them out or do them in. An evolutionary arms race goes on between hosts and pathogens, though a better analogy might be an escalating contest between lockpickers and locksmiths. Germs are small, and they evolve diabolical tricks for infiltrating and hijacking the machinery of the cells, for skimming off its raw materials, and for passing themselves off as the body's own tissues to escape the surveillance of the immune system. The body responds with better security systems, but the germs have a built-in advantage: there are more of them and they can breed millions of times faster, which makes them evolve faster. They can evolve substantially within the lifetime of a host. Whatever molecular locks the body has evolved, the pathogens can evolve keys to open them.

Now, if an organism is asexual, once the pathogens crack the safe of its body they also have cracked the safes of its children and siblings. Sexual reproduction is a way of changing the locks once a generation. By swapping half the genes out for a different half, an organism gives its offspring a head start in the race against the local germs. Its molecular locks have a different combination of pins, so the germs have to start evolving new keys from scratch. A malevolent pathogen is the one thing in the world that rewards change for change's sake.

Sex poses a second puzzle. Why do we come in *two* sexes? Why do we make one big egg and lots of little sperm, instead of two equal blobs that coalesce like mercury? It is because the cell that is to become the baby cannot be just a bag of genes; it needs the metabolic machinery of the

rest of a cell. Some of that machinery, the mitochondria, has its own genes, the famous mitochondrial DNA which is so useful in dating evolutionary splits. Like all genes, the ones in mitochondria are selected to replicate ruthlessly. And that is why a cell formed by fusing two equal cells faces trouble. The mitochondria of one parent and the mitochondria of the other parent wage a ferocious war for survival inside it. Mitochondria from each parent will murder their counterparts from the other, leaving the fused cell dangerously underpowered. The genes for the rest of the cell (the ones in the nucleus) suffer from the crippling of the cell, so they evolve a way of heading off the internecine warfare. In each pair of parents, one "agrees" to unilateral disarmament. It contributes a cell that provides no metabolic machinery, just naked DNA for the new nucleus. The species reproduces by fusing a big cell that contains a half-set of genes plus all the necessary machinery with a small cell that contains a half-set of genes and nothing else. The big cell is called an egg and the small cell is called a sperm.

Once an organism has taken that first step, the specialization of its sex cells can only escalate. A sperm is small and cheap, so the organism might as well make many of them, and give them outboard motors to get to the egg quickly and an organ to launch them on their way. The egg is big and precious, so the organism had better give it a head start by packing it with food and a protective cover. That makes it more expensive still, so to protect the investment the organism evolves organs that let the fertilized egg grow inside the body and absorb even more food, and that release the new offspring only when it is large enough to survive. These structures are called male and female reproductive organs. A few animals, hermaphrodites, put both kinds of organs in every individual, but most specialize further and divide up into two kinds, each allocating all their reproductive tissue to one kind of organ or the other. They are called males and females.

Trivers has worked out how all the prominent differences between males and females stem from the difference in the minimum size of their investment in offspring. Investment, remember, is anything a parent does that increases the chance of survival of an offspring while decreasing the parent's ability to produce other viable offspring. The investment can be energy, nutrients, time, or risk. The female, by definition, begins with a bigger investment—the larger sex cell—and in most species commits herself to even more. The male contributes a puny package of genes and usually leaves it at that. Since every offspring requires one of each,

the female's contribution is the limiting step on how many offspring can be produced: at most, one offspring for each egg she creates and nurtures. Two cascades of consequences flow from this difference.

First, a single male can fertilize several females, which forces other males to go mateless. That sets up a competition among males for access to females. A male may beat up other males to prevent them from getting to a female, or compete for the resources necessary to mate, or court a female to get her to choose him. Males therefore vary in reproductive success. A winner can beget many offspring, a loser will beget none.

Second, the reproductive success of males depends on how many females they mate with, but the reproductive success of females does not depend on how many males they mate with. That makes females more discriminating. Males woo females and mate with any female that lets them. Females scrutinize males and mate only with the best ones: the ones with the best genes, the ones most willing and able to feed and protect her offspring, or the ones that the other females tend to prefer.

Male competition and female choice are ubiquitous in the animal kingdom. Darwin called attention to these two spectacles, which he dubbed sexual selection, but was puzzled as to why it should be males that compete and females that choose rather than the other way around. The theory of parental investment solves the puzzle. The greater-investing sex chooses, the lesser-investing sex competes. Relative investment, then, is the cause of sex differences. Everything else—testosterone, estrogen, penises, vaginas, Y chromosomes, X chromosomes—is secondary. Males compete and females choose only because the slightly bigger investment in an egg that *defines* being female tends to get multiplied by the rest of the animal's reproductive habits. In a few species, the whole animal reverses the initial difference in investment between egg and sperm, and in those cases *females* should compete and *males* should choose. Sure enough, these exceptions prove the rule. In some fishes the male broods the young in a pouch. In some birds, the male sits on the egg and feeds the young. In those species, the females are aggressive and try to court the males, who select partners carefully.

In a typical mammal, though, the female does almost all the investing. Mammals have opted for a body plan in which the female carries the fetus inside her, nourishes it with her blood, and nurses and protects it after it is born until the offspring has grown big enough to fend for itself. The male contributes a few seconds of copulation and a sperm cell.

weighing one ten-trillionth of a gram. Not surprisingly, male mammals compete for opportunities to have sex with female mammals. The details depend on the rest of the animal's way of life. Females live alone or in groups, in small groups or large ones, in stable groups or temporary ones, using sensible criteria like where the food is, where it's safest, where they can easily bear and raise young, and whether they need strength in numbers. Males go where the females are. Female elephant seals, for example, congregate on beach strips which a male can easily patrol. A single male can monopolize the group, and males fight bloody battles for this jackpot. Bigger fighters are better fighters, so the males have evolved to be four times the size of the females.

Apes have a wide variety of sexual arrangements. That means, by the way, that there is no such thing as an "ape legacy" that humans are doomed to live by. Gorillas live on the fringes of forests in small groups of one male and several females, and the males fight each other for control over females, the males evolving to be twice the females' size. Gibbon females are solitary and widely dispersed, and the male finds a female's territory and acts as a faithful consort. Since other males are off in other territories, they fight no more than females do and are no bigger. Orangutan females are solitary but close enough together that a male can monopolize two or more of their ranges, and the males are about 1.7 times the size of the females. Chimps live in large, unstable groups that no male could dominate. Groups of males live with the females, and the males compete for dominance, which confers more opportunities to copulate. The males are about 1.3 times as large as the females. With lots of males around, a female has an incentive to mate with many of them so that a male can never be sure that an infant is not his and hence will not murder the infant to make its mother available to bear his own offspring. Bonobo (pygmy chimp) females are almost indiscriminately promiscuous, and the males fight less and are about the same size as females. They compete in a different way: inside the females' bodies.

Sperm can survive in the vagina for several days, so a promiscuous female can have several males' sperm competing inside her for a chance at fertilizing the egg. The more sperm a male produces, the greater the chance that one of his will get there first. That explains why chimpanzees have enormous testicles for their body size. Bigger testes make more sperm, which have a better chance inside promiscuous females. A gorilla is four times the weight of a chimpanzee, but his testicles are four times smaller. The females in his harem have no chance to copulate with

any other male, so his sperm do not have to compete. Gibbons, who are monogamous, have small testicles, too.

In almost all primates (indeed, in almost all mammals), the males are deadbeat dads, contributing nothing to their offspring but DNA. Other species are more fatherly. Most birds, many fishes and insects, and social carnivores such as wolves have males that protect or feed their offspring. The evolution of male parental investment is helped along by several things. One is external fertilization, found in most fishes, where the female drops her eggs and the male fertilizes them in the water. The male is guaranteed that the fertilized eggs carry his genes, and since they have been released while the young are undeveloped, he has an opportunity to help. But in most mammals the cards are stacked against doting fatherhood. The egg is tucked away inside the mother, where some other male can fertilize it, so a male is never certain an offspring is his. He faces the danger of wasting his investment on another male's genes. Also, the embryo does most of its growing inside the mother, where the father can't get at it to help directly. And a father can easily desert and try to mate with another female, whereas the female is left holding the bag and cannot get rid of the fetus or offspring without having to go through the long process of nurturing an embryo all over again to get back to where she started. Fatherhood is also promoted when a species' lifestyle makes the benefits exceed the costs: when the offspring would be vulnerable without him, when he can easily provision them with concentrated food like meat, and when the young are easy to defend.

When males become devoted fathers, the rules of the mating game change. A female may choose a mate based on his ability and his willingness to invest in their offspring, insofar as she can judge. Females, not just males, compete for mates, though the prizes are different: males compete for fertile females willing to copulate, females compete for flush males willing to invest. Polygamy is no longer a matter of one male beating up all the others, or the females all wanting to be inseminated by the fiercest or prettiest male. When males invest *more* than females, as we have seen, the species may be polyandrous, with tough females keeping harems of males. (The mammals' body plan has foreclosed that option.) When one male has much more to invest than others (because, say, he controls a better territory), females may be better off sharing him—polygyny—than each having her own mate, because a fraction of a big resource may be better than the entirety of a small one. When males'

contributions are more equal, the undivided attention of one becomes valuable, and the species settles on monogamy.

Many birds appear to be monogamous. In *Manhattan*, Woody Allen says to Diane Keaton, "I think people should mate for life, like pigeons or Catholics." The movie came out before ornithologists began to submit birds to DNA testing, which revealed, to their shock, that pigeons are not so faithful either. In some species of birds, a third of the offspring contain the DNA of a male other than the female's consort. The male bird is adulterous because he tries to raise the offspring of one female and mate with others, hoping that her offspring will survive on their own, or best of all, be raised by a cuckolded consort. The female bird is adulterous because she has a chance of getting the best of both worlds: the genes of the fittest male and the investment of the most willing male. The victim of cuckoldry is worse off than if he had failed to breed at all, because he has devoted his worldly efforts to the genes of a competitor. So in species whose males invest, the male's jealousy is directed not only at rival males but at the female. He may guard her, follow her around, copulate repeatedly, and avoid females that show signs of having recently mated.

The human mating system is not like any other animal's. But that does not mean it escapes the laws governing mating systems, which have been documented in hundreds of species. Any gene predisposing a male to be cuckolded, or a female to receive less paternal help than her neighbors, would quickly be tossed from the gene pool. Any gene that allowed a male to impregnate all the females, or a female to bear the most indulged offspring of the best male, would quickly take over. These selection pressures are not small. For human sexuality to be "socially constructed" and independent of biology, as the popular academic view has it, not only must it have miraculously escaped these powerful pressures, but it must have withstood equally powerful pressures of a different kind. If a person played out a socially constructed role, other people could shape the role to prosper at his or her expense. Powerful men could brainwash the others to enjoy being celibate or cuckolded, leaving the women for them. Any willingness to accept socially constructed gender roles would be selected out, and genes for resisting the roles would take over.

What kind of animal is *Homo sapiens*? We are mammals, so a woman's minimum parental investment is much larger than a man's. She contributes nine months of pregnancy and (in a natural environment) two to four years of nursing. He contributes a few minutes of sex and a teaspoon of semen. Men are about 1.15 times as large as women, which tells us that they have competed in our evolutionary history, with some men mating with several women and some men mating with none. Unlike gibbons, who are isolated, monogamous, and relatively sexless, and gorillas, who are clustered, harem-forming, and relatively sexless, we are gregarious, with men and women living together in large groups and constantly facing opportunities to couple. Men have smaller testicles for their body size than chimpanzees but bigger ones than gorillas and gibbons, suggesting that ancestral women were not wantonly promiscuous but were not always monogamous either. Children are born helpless and remain dependent on adults for a large chunk of the human lifespan, presumably because knowledge and skills are so important to the human way of life. So children need parental investment, and men, because they get meat from hunting and other resources, have something to invest. Men far exceed the minimum investment that their anatomy would let them get away with: they feed, protect, and teach their children. That should make cuckoldry a concern to men, and a man's willingness and ability to invest in children a concern to women. Because men and women live together in large groups, like chimps, but the males invest in their offspring, like birds, we developed marriage, in which a man and woman form a reproductive alliance that is meant to limit demands from third parties for sexual access and parental investment.

These facts of life have never changed, but others have. Until recently, men hunted and women gathered. Women were married soon after puberty. There was no contraception, no institutionalized adoption by nonrelatives, and no artificial insemination. Sex meant reproduction and vice versa. There was no food from domesticated plants or animals, so there was no baby formula; all children were breast-fed. There was also no paid day care, and no househusbands; babies and toddlers hung around with their mothers and other women. These conditions persisted through ninety-nine percent of our evolutionary history and have shaped our sexuality. Our sexual thoughts and feelings are adapted to a world in which sex led to babies, whether or not we want to make babies now. And they are adapted to a world in which children were a mother's problem more than a father's. When I use terms like "should," "best," and

“optimal,” they will be a shorthand for the strategies that would have led to reproductive success in that world. I will not be referring to what is morally right, attainable in the modern world, or conducive to happiness, which are different matters altogether.

The first question of strategy is how many partners to want. Remember that when the minimum investment in offspring is greater for females, a male can have more offspring if he mates with many females, but a female does not have more offspring if she mates with many males—one per conception is enough. Suppose a foraging man with one wife can expect two to five children with her. A premarital or extramarital liaison that conceives a child would increase his reproductive output by twenty to fifty percent. Of course, if the child starves or is killed because the father isn't around, the father is genetically no better off. The optimal liaison, then, is with a married woman whose husband would bring up the child. In foraging societies, fertile women are almost always married, so sex with a woman is usually sex with a married woman. Even if she is not, more fatherless children live than die, so a liaison with an unmarried partner can increase reproduction, too. None of this math applies to women. A part of the male mind, then, should want a variety of sexual partners for the sheer sake of having a variety of sexual partners.

Do you think that the only difference between men and women is that men like women and women like men? Any bartender or grandmother you ask would say that men are more likely to have a wandering eye, but perhaps that is just an old-fashioned stereotype. The psychologist David Buss has looked for the stereotype in the people most likely to refute it—men and women in elite liberal American universities a generation after the feminist revolution, in the heyday of politically correct sensibilities. The methods are refreshingly direct.

Confidential questionnaires asked a series of questions. How strongly are you seeking a spouse? The answers were on average identical for men and women. How strongly are you seeking a one-night stand? The women said, Not very strongly; the men said, Pretty strongly. How many sexual partners would you like to have in the next month? In the next two years? In your lifetime? Women said that in the next month eight-tenths of a sexual partner would be just about right. They wanted

one in the next two years, and four or five over their lifetimes. Men wanted two sex partners within the month, eight in the next two years, and eighteen over their lifetimes. Would you consider having sex with a desirable partner that you had known for five years? For two years? For a month? For a week? Women said "probably yes" for a man they had known for a year or more, "neutral" for one they had known for six months, and "definitely not" for someone they had known a week or less. Men said "probably yes" as long as they had known the woman for a week. How short a time would a man have to know a woman before he would definitely *not* have sex with her? Buss never found out; his scale did not go down past "one hour." When Buss presented these findings at a university and explained them in terms of parental investment and sexual selection, a young woman raised her hand and said, "Professor Buss, I have a simpler explanation of your data." Yes, he said, what is it? "Men are slime."

Are men really slime, or are they just trying to look like slime? Perhaps in questionnaires men try to exaggerate their studliness but women want to avoid looking easy. The psychologists R. D. Clark and Elaine Hatfield hired attractive men and women to approach strangers of the opposite sex on a college campus and say to them, "I have been noticing you around campus. I find you very attractive," and then ask one of three questions: (a) "Would you go out with me tonight?" (b) "Would you come over to my apartment tonight?" (c) "Would you go to bed with me tonight?" Half the women consented to a date. Half the men consented to a date. Six percent of the women consented to go to the stooge's apartment. Sixty-nine percent of the men consented to go to the stooge's apartment. None of the women consented to sex. Seventy-five percent of the men consented to sex. Of the remaining twenty-five percent, many were apologetic, asking for a rain check or explaining that they couldn't because their fiancée was in town. The results have been replicated in several states. When the studies were conducted, contraception was widely available and safe-sex practices were heavily publicized, so the results cannot be dismissed simply because women might be more cautious about pregnancy and sexually transmitted diseases.

An awakening of male sexual desire by a new partner is known as the Coolidge effect, after a famous anecdote. One day President Calvin Coolidge and his wife were visiting a government farm and were taken on separate tours. When Mrs. Coolidge was shown the chicken pens, she asked whether the rooster copulated more than once a day. "Dozens

of times," replied the guide. "Please tell that to the president," Mrs. Coolidge requested. When the president was shown the pens and told about the rooster, he asked, "Same hen every time?" "Oh, no, Mr. President, a different one each time." The president said, "Tell that to Mrs. Coolidge." Many male mammals are indefatigable when a new willing female is available after each copulation. They cannot be fooled by the experimenter cloaking a previous partner or masking her scent. This shows, incidentally, that male sexual desire is not exactly "undiscriminating." Males may not care *what kind* of female they mate with, but they are hypersensitive to *which* female they mate with. It is another example of the logical distinction between individuals and categories that I argued was so important when criticizing associationism in Chapter 2.

Men do not have the sexual stamina of roosters, but they show a kind of Coolidge effect in their desire over longer periods. In many cultures, including our own, men report that their sexual ardor for their wives wanes in the first years of marriage. It is the concept of the individual person, not her appearance or other qualities, that triggers the decline; the taste for new partners is not just an example of variety being the spice of life, as in getting bored with strawberry and wanting to try chocolate ripple. In Isaac Bashevis Singer's story "Schlemiel the First," a simpleton from the mythical village of Chelm sets out on a trip but loses his way and inadvertently returns home, thinking he has come across another village, which by an amazing coincidence looks just like his. He meets a woman who looks exactly like the wife he has grown tired of, and finds her ravishing.

Another part of the male sexual mind is an ability to be easily aroused by a possible sex partner—indeed, by the faintest hint of a possible sex partner. Zoologists have found that the males of many species will court an enormous range of objects having a vague resemblance to the female: other males, females of the wrong species, females of the right species that have been stuffed and nailed to a board, parts of stuffed females such as a head suspended in midair, even parts of stuffed females with important features missing like the eyes and the mouth. The male of the human species is aroused by the sight of a nude woman, not only in the flesh but in movies, photographs, drawings, postcards, dolls, and

bit-mapped cathode-ray-tube displays. He takes pleasure in this mistaken identity, supporting a worldwide pornography industry which in the United States alone grosses ten billion dollars a year, almost as much as spectator sports and the movies combined. In foraging cultures, young men make charcoal drawings of breasts and vulvas on rock overhangs, carve them on tree trunks, and scratch them in the sand. Pornography is similar the world over and was much the same a century ago as it is today. It depicts in graphic physical detail a succession of anonymous nude females eager for casual, impersonal sex.

It would make no sense for a woman to be easily aroused by the sight of a nude male. A fertile woman never has a shortage of willing sexual partners, and in that buyer's market she can seek the best husband available, the best genes, or other returns on her sexual favors. If she could be aroused by the sight of a naked man, men could induce her to have sex by exposing themselves and her bargaining position would be compromised. The reactions of the sexes to nudity are quite different: men see nude women as a kind of invitation, women see nude men as a kind of threat. In 1992 a Berkeley student known around campus as the Naked Guy chose to jog, attend class, and eat in the dining halls in the nude as a protest against the repressive sexual traditions of Western society. He was expelled when some female students protested that his behavior should be classified as sexual harassment.

Women do not seek the sight of naked male strangers or enactments of anonymous sex, and there is virtually no female market for pornography. (*Playgirl*, the supposed counterexample, is clearly for gay men. It has no ads for any product a woman would buy, and when a woman gets a subscription as a gag gift she finds herself on mailing lists for gay male pornography and sex toys.) In the laboratory, some early experiments claimed that men and women showed identical physiological arousal to a pornographic passage. The men, however, showed a bigger response to the *neutral* passage in the control condition than the women showed to the *pornography*. The so-called neutral passage, which had been chosen by the female investigators, described a man and a woman chatting about the relative merits of an anthropology major over pre-med. The men found it highly erotic! Women can sometimes be aroused when they have agreed to watch portrayals of intercourse, but they do not seek them out. (Symons points out that women are more choosy than men in *consenting* to sex, but once they have consented, there is no reason to believe they are any less responsive to sexual stimulation.) The closest

mass-market equivalents to pornography for women are the romance novel and the bodice-ripper, in which the sex is described in the context of emotions and relationships rather than as a succession of bumping bodies.

The desire for sexual variety is an unusual adaptation, for it is insatiable. Most commodities of fitness show diminishing returns or an optimal level. People do not seek mass quantities of air, food, and water, and they want to be not too hot and not too cold but just right. But the more women a man has sex with, the more offspring he leaves; too much is never enough. That gives men a limitless appetite for casual sex partners (and perhaps for the commodities that in ancestral environments would have led to multiple partners, such as power and wealth). Everyday life offers most men few opportunities to plumb the bottom of the desire, but occasionally a man is rich, famous, handsome, and amoral enough to try. Georges Simenon and Hugh Hefner claimed to have had thousands of partners; Wilt Chamberlain estimated that he had twenty thousand. Say we liberally adjust for braggadocio and assume that Chamberlain inflated his estimate by a factor of, say, ten. That would still mean that one thousand nine hundred and ninety-nine sex partners were not enough.

Symons notes that homosexual relations offer a clear window on the desires of each sex. Every heterosexual relationship is a compromise between the wants of a man and the wants of a woman, so differences between the sexes tend to be minimized. But homosexuals do not have to compromise, and their sex lives showcase human sexuality in purer form (at least insofar as the rest of their sexual brains are not patterned like those of the opposite sex). In a study of homosexuals in San Francisco before the AIDS epidemic, twenty-eight percent of gay men reported having had more than a thousand sex partners, and seventy-five percent reported having had more than a hundred. No gay woman reported a thousand partners, and only two percent reported as many as a hundred. Other desires of gay men, like pornography, prostitutes, and attractive young partners, also mirror or exaggerate the desires of heterosexual men. (Incidentally, the fact that men's sexual wants are the same whether they are directed at women or directed at other men refutes the

theory that they are instruments for oppressing women.) It's not that gay men are oversexed; they are simply men whose male desires bounce off other male desires rather than off female desires. Symons writes, "I am suggesting that heterosexual men would be as likely as homosexual men to have sex most often with strangers, to participate in anonymous orgies in public baths, and to stop off in public restrooms for five minutes of fellatio on the way home from work if women were interested in these activities. But women are not interested."

Among heterosexuals, if men want variety more than women do, Econ 101 tells us what should follow. Copulation should be conceived of as a female service, a favor that women can bestow on or withhold from men. Scores of metaphors treat sex with a woman as a precious commodity, whether they take the woman's perspective (*saving yourself, giving it away, feeling used*) or the man's (*getting any, sexual favors, getting lucky*). And sexual transactions often obey market principles, as cynics of all persuasions have long recognized. The feminist theorist Andrea Dworkin has written, "A man wants what a woman has—sex. He can steal it (rape), persuade her to give it away (seduction), rent it (prostitution), lease it over the long term (marriage in the United States) or own it outright (marriage in most societies)." In all societies, it is mostly or entirely the men who woo, proposition, seduce, use love magic, give gifts in trade for sex, pay bride-prices (rather than collect dowries), hire prostitutes, and rape.

Sexual economics, of course, also depends on the desirability of the individuals, not just the average desires of the sexes. People "pay" for sex—in cash, commitment, or favors—when the partner is more desirable than they are. Since women are more discriminating than men, the average man has to pay for sex with the average woman. An average man can attract a higher-quality wife than casual sex partner (assuming that a marriage commitment is a kind of payment), whereas a woman can attract a higher-quality casual sex partner (who would pay nothing) than husband. The highest-quality men, in theory, should have a large number of women willing to have sex with them. A cartoon by Dan Wasserman shows a couple leaving the theater after having seen *Indecent Proposal*. The husband says, "Would you sleep with Robert Redford for a million dollars?" She replies, "Yes, but they'd have to give me some time to come up with the money."

The cartoonist's wit, though, exploits our sense of surprise. We don't expect real life to work that way. The men most attractive to women do

not hire themselves out as prostitutes; they may even hire prostitutes themselves. In 1995, the actor Hugh Grant, arguably the world's handsomest man, was arrested for having oral sex with a prostitute in the front seat of his car. The simple economic analysis fails here because money and sex are not completely fungible. As we shall see, part of men's attractiveness comes from their wealth, so the most attractive men don't need the money. And the "payment" that most women hope for is not cash but long-term commitment, which is a scarce resource even for the handsomest and wealthiest man. The economics of the Hugh Grant affair are well summed up by an exchange from another movie, based on the story of Heidi Fleiss, the Hollywood madame. A call girl asks her friend why her handsome tricks have to pay for sex. "They're not paying you for the sex," the friend explains. "They're paying you to go away afterwards."

Could it be that men *learn* to want sexual variety? Perhaps it is a means to an end, the end being status in our society. The Don Juan is revered as a dashing stud; the pretty woman on his arm is a trophy. Certainly anything that is desirable and rare can become a status symbol. But that does not mean that all desirable things are pursued *because* they are status symbols. I suspect that if men were given the hypothetical choice between clandestine sex with many attractive women and a *reputation* for sex with many attractive women, but without the sex, they would go for the sex. Not only because sex is incentive enough, but because a reputation for having sex is a *disincentive*. Don Juans do *not* inspire admiration, especially in women, though they may inspire envy in men, a different and not always welcome reaction. Symons remarks,

Human males appear to be so constituted that they resist learning *not* to desire variety despite impediments such as Christianity and the doctrine of sin; Judaism and the doctrine of mensch; social science and the doctrines of repressed homosexuality and psychosexual immaturity; evolutionary theories of monogamous pair-bonding; cultural and legal traditions that support and glorify monogamy; the fact that the desire for variety is virtually impossible to satisfy; the time and energy, and the innumerable kinds of risk—physical and emotional—that variety-seeking entails; and the obvious potential rewards of learning to be sexually satisfied with one woman.

A wandering eye, learned or not, is not the only component of a man's mind. Though desire often leads to behavior, it often does not, because

other desires are stronger or because tactics of self-control (see Chapter 6) have been put into effect. Men's sexual tastes can be calibrated and overruled depending on the man's attractiveness, the availability of partners, and his assessment of the costs of a dalliance.

HUSBANDS AND WIVES

In evolutionary terms, a man who has a short-term liaison is betting that his illegitimate child will survive without his help or is counting on a cuckolded husband to bring it up as his own. For the man who can afford it, a surer way to maximize progeny is to seek several wives and invest in all their children. Men should want many wives, not just many sex partners. And in fact, men in power have allowed polygyny in more than eighty percent of human cultures. Jews practiced it until Christian times and outlawed it only in the tenth century. Mormons encouraged it until it was outlawed by the U.S. government in the late nineteenth century, and even today there are thought to be tens of thousands of clandestine polygynous marriages in Utah and other western states. Whenever polygyny is allowed, men seek additional wives and the means to attract them. Wealthy and prestigious men have more than one wife; ne'er-do-wells have none. Typically a man who has been married for some time seeks a younger wife. The senior wife remains his confidante and partner and runs the household; the junior one becomes his sexual interest.

In foraging societies wealth cannot accumulate, but a few fierce men, skilled leaders, and good hunters may have two to ten wives. With the invention of agriculture and massive inequality, polygyny can reach ridiculous proportions. Laura Betzig has documented that in civilization after civilization, despotic men have implemented the ultimate male fantasy: a harem of hundreds of nubile women, closely guarded (often by eunuchs) so no other man can touch them. Similar arrangements have popped up in India, China, the Islamic world, sub-Saharan Africa, and the Americas. King Solomon had a thousand concubines. Roman emperors called them slaves, and medieval European kings called them serving maids.

Polyandry, by comparison, is vanishingly rare. Men occasionally share a wife in environments so harsh that a man cannot survive without a woman, but the arrangement collapses when conditions improve. Eskimos have sporadically had polyandrous marriages, but the co-husbands

are always jealous and one often murders the other. As always, kinship mitigates enmity, and among Tibetan farmers two or more brothers sometimes marry a woman simultaneously in the hope of putting together a family that can survive in the bleak territory. The junior brother, though, aspires to have a wife of his own.

Marriage arrangements are usually described from the man's point of view, not because the desires of women are irrelevant but because powerful men have usually gotten their way. Men are bigger and stronger because they have been selected to fight one another, and they can form powerful clans because in traditional societies sons stay near their families and daughters move away. The most florid polygynists are always despots, men who could kill without fear of retribution. (According to the *Guinness Book of World Records*, the man with the most recorded children in history—888—was an emperor of Morocco with the evocative name Moulay Ismail The Bloodthirsty.) The hyperpolygynist not only must fend off the hundreds of men he has deprived of wives, but must oppress his harem. Marriages always have at least a bit of reciprocity, and in most polygynous societies a man may forgo additional wives because of their emotional and financial demands. A despot can keep them imprisoned and terrified.

But oddly enough, in a freer society polygyny is not necessarily bad for women. On financial and ultimately on evolutionary grounds, a woman may prefer to share a wealthy husband than to have the undivided attention of a pauper, and may even prefer it on emotional grounds. Laura Betzig summed up the reason: Would you rather be the third wife of John F. Kennedy or the first wife of Bozo the Clown? Co-wives often get along, sharing expertise and child-care duties, though jealousies among the subfamilies often erupt, much as in stepfamilies but with more factions and adult players. If marriage were genuinely a free market, then in a polygamous society men's greater demand for a limited supply of partners and their inflexible sexual jealousy would give the advantage to women. Laws enforcing monogamy would work to women's disadvantage. The economist Steven Landsburg explains the market principle, using labor instead of money in his example:

Today, when my wife and I argue about who should do the dishes, we start from positions of roughly equal strength. If polygamy were legal, my wife could hint that she's thought about leaving me to marry Alan and Cindy down the block—and I might end up with dishpan hands.

. . . Antipolygamy laws are a textbook example of the theory of cartels. Producers, initially competitive, gather together in a conspiracy against the public or, more specifically, against their customers. They agree that each firm will restrict its output in an attempt to keep prices high. But a high price invites cheating, in the sense that each firm seeks to expand its own output beyond what is allowable under the agreement. Eventually, the cartel crumbles unless it is enforced by legal sanctions, and even then violations are legion.

That story, told in every economics textbook, is also the story of male producers in the romance industry. Initially fiercely competitive, they gather together in a conspiracy against their "customers"—the women to whom they offer their hands in marriage. The conspiracy consists of an agreement under which each man restricts his romantic endeavors in an attempt to increase the bargaining position of men in general. But the improved position of men invites cheating, in the sense that each man tries to court more women than allowed under the agreement. The cartel survives only because it is enforced by legal sanctions, and even so violations are legion.

Legal monogamy historically has been an agreement between more and less powerful men, not between men and women. Its aim is not so much to exploit the customers in the romance industry (women) as to minimize the costs of competition among the producers (men). Under polygyny, men vie for extraordinary Darwinian stakes—many wives versus none—and the competition is literally cutthroat. Many homicides and most tribal wars are directly or indirectly about competition for women. Leaders have outlawed polygyny when they needed less powerful men as allies and when they needed their subjects to fight an enemy instead of fighting one another. Early Christianity appealed to poor men partly because the promise of monogamy kept them in the marriage game, and in societies since, egalitarianism and monogamy go together as naturally as despotism and polygyny.

Even today, inequality has allowed a kind of polygyny to flourish. Wealthy men support a wife and a mistress, or divorce their wives at twenty-year intervals and pay them alimony and child support while marrying younger women. The journalist Robert Wright has speculated that easy divorce and remarriage, like overt polygyny, increases violence. Women of childbearing age are monopolized by well-to-do men, and the shortage of potential wives trickles down to the lower strata, forcing the poorest young men into desperate competition.

All of these intrigues come from a single difference between the sexes, men's greater desire for multiple partners. But men are not completely indiscriminate, and women are not voiceless in any but the most despotic societies. Each sex has criteria for picking partners for liaisons and for marriages. Like other staunch human tastes, they appear to be adaptations.

Both sexes want spouses, and men want liaisons more than women do, but that does not mean women never want liaisons. If they never did want them, the male urge to philander could not have evolved because it would never have been rewarded (unless the philanderer could always trick his conquest into thinking he was courting her as a wife—but even then, a married woman should never philander or be a target of philandering). Men's testicles would not have evolved to their larger-than-gorilla proportions, for their sperm would never be in danger of being outnumbered. And jealous feelings directed at wives would not exist; as we shall see, they do exist. The ethnographic record shows that in all societies, both sexes commit adultery, and the women do not always take arsenic or throw themselves under the 5:02 from St. Petersburg.

What could ancestral women have gained from liaisons that would have allowed the desire to evolve? One reward is resources. If men want sex for its own sake, women can make them pay for it. In foraging societies, women openly demand gifts from their lovers, usually meat. You may be offended at the thought that our foremothers gave themselves away for a steak dinner, but to foraging peoples in lean times when high-quality protein is scarce, meat is an obsession. (In *Pygmalion*, when Doolittle tries to sell his daughter Eliza to Higgins, Pickering shouts, "Have you no morals, man?" Doolittle replies, "Can't afford them, Governor. Neither could you if you was as poor as me.") From a distance it sounds like prostitution, but to the people involved it may feel more like ordinary etiquette, much as a woman in our own society might be offended if a wealthier lover never took her out to dinner or spent money on her, though both parties would deny there is a quid pro quo. In questionnaires, female college students report that an extravagant lifestyle and a willingness to give gifts are important qualities in picking a short-term lover, though not in picking a husband.

And like many birds, a woman could seek genes from the best-quality male and investment from her husband, because they are unlikely to be

the same man (especially under monogamy and when she has little say in her marriage). Women report that looks and strength matter more in a lover than in a husband; as we shall see, looks are an indicator of genetic quality. And when women go through with an affair, they generally pick men of higher status than their husbands; the qualities that lead to status are almost certainly heritable (though a taste for prestigious lovers may also help with the first motive, extracting resources). Liaisons with superior men also may allow a woman to test her ability to trade up in the marriage market, either as a prelude to doing so or to improve her bargaining position within the marriage. Symons' summary of the sex difference in adultery is that a woman has an affair because she feels that the man is in some way superior or complementary to her husband, and a man has an affair because the woman is not his wife.

Do men require *anything* in a casual sex partner other than two X chromosomes? Sometimes it would appear that the answer is no. The anthropologist Bronislaw Malinowski reported that some Trobriand Island women were considered so repulsive that they were absolutely debarred from sexual intercourse. These women nevertheless managed to have several offspring, which the Trobrianders interpreted as conclusive proof of virgin birth. But more systematic research has shown that men, at least American college students, do have some preferences in a short-term partner. They rate looks as important; as we shall see, beauty is a signal of fertility and genetic quality. Promiscuity and sexual experience are also rated as assets. As Mae West explained, "Men like women with a past because they hope history will repeat itself." But these assets turn into liabilities when the men are asked about long-term partners. They subscribe to the infamous madonna-whore dichotomy, which divides the female sex into loose women, who may be dismissed as easy conquests, and coy women, who are valued as potential wives. This mentality is often called a symptom of misogyny, but it is the optimal genetic strategy for males of any species that invest in their offspring: mate with any female that will let you, but make sure your consort does not mate with any other male.

What should women look for in a husband? A bumper sticker from the 1970s read, "A woman without a man is like a fish without a bicycle." But at least for women in foraging societies, that would have been an overstatement. When a foraging woman is pregnant, nursing, and bringing up children, she and the children are vulnerable to hunger, protein deficiency, predation, rape, kidnapping, and murder. Any man who

fathers her children should be put to good use in feeding and protecting them. From her point of view, he has nothing better to do, though from his point of view, there is an alternative: competing for and wooing other women. Men vary in their ability and willingness to invest in their children, so a woman should choose wisely. She should be impressed by wealth and status, or, in the case of men too young to have them, by portents that they will get them, such as ambition and industriousness. These are all useless unless the man hangs around once the woman becomes pregnant, and men have an interest in saying they will hang around whether or not they intend to. As Shakespeare wrote, "Men's vows are women's traitors." A woman therefore should look for signs of stability and sincerity. An aptitude for bodyguard duty would also come in handy.

What should men look for in a wife? Aside from faithfulness, which guarantees his paternity, she should be able to bear as many children as possible. (As always, that would be how our tastes were engineered; the reasoning does not imply that a man literally wants lots and lots of babies.) She should be fertile, which means she should be healthy and past the age of puberty but before the age of menopause. But a woman's current fertility is more relevant to a one-night stand than to a lifelong marriage. What counts is the number of offspring he can expect over the long term. Since a woman can bear and nurse one child every few years, and her childbearing years are finite, the younger the bride, the bigger the future family. That is true even though the youngest brides, teenagers, are somewhat less fertile than women in their early twenties. Ironically for the men-are-slime theory, an eye for nubile women may have evolved in the service of marriage and fatherhood, not one-night stands. Among chimpanzees, where a father's role ends with copulation, some of the wrinkled and saggy females are the sexiest.

Are the predictions just old-fashioned stereotypes? Buss designed a questionnaire asking about the importance of eighteen qualities of a mate and gave it to ten thousand people in thirty-seven countries on six continents and five islands—monogamous and polygynous, traditional and liberal, communist and capitalist. Men and women everywhere place the highest value of all on intelligence and on kindness and understanding. But in every country men and women differ on the other qualities. Women value earning capacity more than men do; the size of the difference varies from a third more to one and a half times more, but it's always there. In virtually every country, women place a greater value than

men on status, ambition, and industriousness. And in most, they value dependability and stability more than men do. In every country, men place a higher value on youth and on looks than women do. On average, men want a bride 2.66 years younger; women want a groom 3.42 years older. The results have been replicated many times.

People's actions tell the same story. According to the contents of personal advertisements, Men Seeking Women seek youth and looks, Women Seeking Men seek financial security, height, and sincerity. The owner of one dating service observed, "Women really read over our profile forms; guys just look at the pictures." Among married couples, the husband is 2.99 years older than the wife, as if they had split the difference between their preferences. In foraging cultures, everyone agrees that some people are sexier than others, and the sexpots are usually young women and prestigious men. Yanomamö men, for example, say that the most desirable women are *moko dudei*, an expression that when applied to fruit means perfectly ripe and when applied to women means between fifteen and seventeen years old. When shown slides, Western observers of both sexes agree with the Yanomamö men that the *moko dudei* women are the most attractive. In our society, the best predictor of a man's wealth is his wife's looks, and the best predictor of a woman's looks is her husband's wealth. Dumpy-looking cabinet secretaries like Henry Kissinger and John Tower are called sex symbols and womanizers. Octogenarian oil barons like J. Paul Getty and J. Howard Marshall marry women young enough to be their great-granddaughters, such as the model Anna Nicole Smith. Not-so-handsome rock stars like Billy Joel, Rod Stewart, Lyle Lovett, Rick Ocasek, Ringo Starr, and Bill Wyman marry gorgeous actresses and supermodels. But former Representative Patricia Schroeder says she has noticed that a middle-aged congresswoman does not radiate the same animal magnetism to the opposite sex that a middle-aged congressman does.

An obvious retort is that women value wealthy and powerful men because it is the men who have the wealth and power. In a sexist society, women have to marry up to get them. That alternative has been tested and refuted. Women with large salaries, postgraduate degrees, prestigious professions, and high self-esteem place a *greater* value on wealth and status in a husband than other women do. So do the leaders of feminist organizations. Poor men place no higher value on wealth or earning power in a wife than other men do. Among the Bakweri in Cameroon, the women are wealthier and more powerful than the men, and they still insist on men with money.

The humorist Fran Lebowitz once said in an interview, "People who get married because they're in love make a ridiculous mistake. It makes much more sense to marry your best friend. You *like* your best friend more than anyone you're ever going to be in love with. You don't choose your best friend because they have a cute nose, but that's all you're doing when you get married; you're saying, 'I will spend the rest of my life with you because of your lower lip.'"

It is a puzzle, and the obvious place to look for an answer is the fact that you don't make children with your best friend but you do with your spouse. Perhaps we care about a few millimeters of flesh here or there because it is a perceptual signal of a deeper trait that cannot be measured directly: how well equipped the person's body is to serve as the other parent of your children. Fitness as a dam or stud is like any other feature of the world. It is not written on a tag but has to be inferred from appearances, using assumptions about how the world works.

Could we really be equipped with an innate eye for beauty? What about the natives in *National Geographic* who file their teeth, stretch their necks with stacks of rings, burn scars into their cheeks, and put plates in their lips? What about the fat women in the Rubens paintings and Twiggy in the 60s? Don't they show that standards of beauty are arbitrary and vary capriciously? They do not. Who says that *everything* people do to their bodies is an attempt to look sexy? That is the tacit assumption behind the *National Geographic* argument, but it's obviously false. People decorate their bodies for many reasons: to look rich, to look well connected, to look tough, to look "in," to earn membership in an elite group by enduring a painful initiation. Sexual attractiveness is different. People outside a culture usually agree with the people inside about who is beautiful and who is not, and people everywhere want good-looking partners. Even three-month-old infants prefer to look at a pretty face.

What goes into sexiness? Both sexes want a spouse who has developed normally and is free of infection. Not only is a healthy spouse vigorous, non-contagious, and more fertile, but the spouse's hereditary resistance to the local parasites will be passed on to the children. We haven't evolved stethoscopes and tongue-depressors, but an eye for beauty does some of the same things. Symmetry, an absence of deformities, cleanliness, unblemished skin, clear eyes, and intact teeth are attractive in all cultures. Orthodontists

have found that a good-looking face has teeth and jaws in the optimal alignment for chewing. Luxuriant hair is always pleasing, possibly because it shows not only current health but a record of health in the years before. Malnutrition and disease weaken the hair as it grows from the scalp, leaving a fragile spot in the shaft. Long hair implies a long history of good health.

A subtler sign of good genes is being average. Not average in attractiveness, of course, but average in the size and shape of every part of the face. The average measurement of a trait in a local population is a good estimate of the optimal design favored by natural selection. If people form a composite of the opposite-sex faces around them, they would have an ideal of the fittest mate against which any candidate could be matched. The exact facial geometry of the local race or ethnic group would not need to be built in. In fact, composite faces, whether formed by superimposing negatives in an enlarger or by sophisticated computer-graphics algorithms, are prettier or handsomer than the individual faces that went into them.

Average faces are a good start, but some faces are even more attractive than the average face. When boys reach puberty, testosterone builds up the bone in their jaws, brows, and nasal region. Girls' faces grow more evenly. The difference in 3-D geometry allows us to tell a man's head from a woman's even when they are both bald and shaved. If the geometry of a woman's face is similar to a man's, she is homelier; if it is less similar, she is prettier. Beauty in a woman comes from a short, delicate, smoothly curved jawbone, a small chin, a small nose and upper jaw, and a smooth forehead without brow ridges. The "high cheekbones" of a beautiful woman are not bones at all but soft tissue, and contribute to beauty because the other parts of a beautiful face (the jaws, forehead, and nose) are small by comparison.

Why are masculine-looking women less attractive? If a woman's face is masculinized, she probably has too much testosterone in her blood (a symptom of many diseases); if she has too much testosterone, she is likely to be infertile. Another explanation is that prettiness-detectors are really female-face detectors, designed to pick them out from every other object in the world and tuned to minimize the risk of a false alarm to a male face, which is the object most similar to a female face. The more unmanly the face, the louder the detector beeps. Similar engineering could explain why men with unfeminine faces are more handsome. A man with a large, angular jaw, a strong chin, and a prominent forehead and brow is undoubtedly an adult male with normal male hormones.

By the callous reckoning of natural selection, young women who have not yet had children are the best wives, because they have the longest reproductive career ahead of them and have no children from another man tagging along. Signs of youth and signs of never having been pregnant should make a woman prettier. Teenage women have larger eyes, fuller and redder lips, smoother, moister, and tighter skin, and firmer breasts, all long recognized as ingredients of pulchritude. Aging lengthens and coarsens a woman's facial bones, and so do pregnancies. Therefore a small-jawed, light-boned face is a clue to four reproductive virtues: being female, having the right hormones, being young, not having been pregnant. The equation of youth and beauty is often blamed on America's being obsessed with youth, but by that reasoning every culture is obsessed with youth. If anything, contemporary America is less youth-oriented. The age of *Playboy* models has *increased* over the decades, and in most times and places women in their twenties have been considered over the hill. Men's looks don't decline as quickly when they age, not because of a double standard in our society but because men's fertility doesn't decline as quickly when they age.

At puberty a girl's hips become wider because her pelvis grows and because fat is deposited on her hips, a reserve of calories available to supply the body during pregnancy. The ratio of waist size to hip size decreases in most fertile women to between .67 and .80, whereas the ratio for most men, children, and postmenopausal women is between .80 and .95. Among women, a low waist-to-hip ratio has been found to correlate with youth, health, fertility, not being pregnant, and never having been pregnant. The psychologist Devendra Singh has shown photographs and computer-generated pictures of female bodies of different sizes and shapes to hundreds of people of various ages, sexes, and cultures. Everyone finds a ratio of .70 or lower the most attractive. The ratio captures the old idea of the hourglass figure, the wasp waist, and the 36-24-36 ideal measurements. Singh also measured the ratio in *Playboy* centerfolds and winners of beauty contests over seven decades. Their weight has gone down, but their waist-to-hip ratio has stayed the same. Even most of the Upper Paleolithic Venus figurines, carved tens of thousands of years ago, have the right proportions.

The geometry of beauty once was an indicator of youth, health, and nonpregnancy, but it no longer has to be. Women today have fewer babies, have them later, are less exposed to the elements, and are better nourished and less disease-ridden than their ancestors. They can look

like an ancestral teenager well into middle age. Women also have a technology to simulate and exaggerate the clues to youth, femaleness, and health: eye makeup (to enlarge the eyes), lipstick, eyebrow plucking (to reduce the appearance of a masculine brow ridge), makeup (to exploit the shape-from-shading mechanism of Chapter 4), products that increase the luster, thickness, and color of hair, bras and clothing that simulate young breasts, and hundreds of potions alleged to keep the skin looking young. Dieting and exercise can keep the waist thinner and the waist-to-hip ratio lower, and an illusion can be engineered with bodices, corsets, hoops, crinolines, bustles, girdles, pleats, tapering, and wide belts. Women's fashion has never embraced bulky cummerbunds.

Outside the scientific literature, more has been written about women's weight than any other aspect of beauty. In the West, women in pictures have weighed less and less over the past decades. That has been taken as evidence for the arbitrariness of beauty and for the oppression of women, who are expected to conform to these standards no matter how unreasonable. Slender models are commonly blamed for anorexia nervosa in teenage girls, and a recent book was called *Fat Is a Feminist Issue*. But weight may be the least important part of beauty. Singh found that very fat women and very thin women are judged less attractive (and in fact they are less fertile), but there is a range of weights considered attractive, and shape (waist-to-hip ratio) is more important than size. The hoopla about thinness applies more to women who pose for other women than to women who pose for men. Twiggy and Kate Moss are fashion models, not pinups; Marilyn Monroe and Jayne Mansfield were pinups, not fashion models. Weight is a factor mostly in the competition among women for status in an age in which wealthy women are more likely to be slender than poor ones, a reversal of the usual relation.

Still, the women posing for both sexes today are slimmer today than their historical counterparts, and it may be for reasons other than just changes in the signs of status. My own conjecture is that today's slender centerfolds and supermodels would not have had trouble finding a date at any time in history, because they are *not* like the skinny women eschewed in centuries past. Body parts do not vary independently. Tall men tend to have big feet, people with thick waists tend to have double chins, and so on. Undernourished women may tend to have more masculine bodies, and well-nourished ones more feminine bodies, so historically attractive women may have tended to be heavier. Neither kind of woman has the most beautiful shape conceivable—say, Jessica

Rabbit's—because real bodies did not evolve as cartoon sex lures. They are compromises among the demands of attractiveness, running, lifting, childbearing, nursing, and surviving famines. Perhaps modern technology *has* fabricated a sex lure, not with a cartoonist's brush but with artificial selection. In a world of five billion people there are bound to be women with wide feet and small heads, men with big ears and scrawny necks, and any other combination of body parts you want to specify. There may be a few thousand women with freakish combinations of small waists, flat abdomens, large firm breasts, and curved but medium-sized hips—optical illusions that send the needles of people's fertility and childlessness gauges into the red. When word gets around that they can parlay their freaky bodies into fame and fortune, they come out of the woodwork, and enhance their gifts with makeup, exercise, and glamour photography. The bodies in the beer commercials may be unlike anything seen in history.

Beauty is not, as some feminists have claimed, a conspiracy by men to objectify and oppress women. The *really* sexist societies drape women in chadors from head to foot. Throughout history the critics of beauty have been powerful men, religious leaders, sometimes older women, and doctors, who can always be counted on to say that the latest beauty craze is hazardous to women's health. The enthusiasts are women themselves. The explanation is simple economics and politics (though not the orthodox feminist analysis—quite insulting to women, incidentally—in which women are dupes who have been brainwashed into striving for something they don't want). Women in open societies want to look good because it gives them an edge in competing for husbands, status, and the attention of powerful people. Men in closed societies hate beauty because it makes their wives and daughters indiscriminately attractive to other men, giving the women a measure of control over the profits from their own sexuality and taking it away from the men (and, in the case of daughters, away from their mothers). Similar economics make men want to look good, too, but the market forces are weaker or different because men's looks matter less to women than women's looks matter to men.

Though the beauty industry is not a conspiracy against women, it is not innocuous either. We calibrate our eye for beauty against the people we see, including our illusory neighbors in the mass media. A daily diet of freakishly beautiful virtual people may recalibrate the scales and make the real ones, including ourselves, look ugly.

For humans, like birds, life is complicated because of two of their reproductive habits. Males invest in their offspring, but fertilization happens out of sight inside the female's body, so a male never knows which offspring are his. A female, in contrast, can be certain that any egg or baby coming out of her body carries her genes. A cuckolded male is worse than a celibate one in the evolutionary struggle, and male birds have evolved defenses against it. So have humans. Sexual jealousy is found in all cultures.

Both sexes can feel intense jealousy at the thought of a dallying mate, but their emotions are different in two ways. Women's jealousy appears to be under the control of more sophisticated software, and they can appraise their circumstances and determine whether the man's behavior poses a threat to their ultimate interests. Men's jealousy is cruder and more easily triggered. (Once triggered, though, women's jealousy appears to be as intensely felt as men's.) In most societies, some women readily share a husband, but in no society do men readily share a wife. A woman having sex with another man is *always* a threat to the man's genetic interests, because it might fool him into working for a competitor's genes, but a man having sex with another woman is not necessarily a threat to the woman's genetic interests, because his illegitimate child is another woman's problem. It is only a threat if the man diverts investment from her and her children to the other woman and her children, either temporarily or, in the case of desertion, permanently.

So men and women should be jealous of different things. Men should squirm at the thought of their wives or girlfriends having sex with another man; women should squirm at the thought of their husbands or boyfriends giving time, resources, attention, and affection to another woman. Of course no one likes to think of their mate offering sex or affection to anyone else, but even then the reasons may differ: men may be upset about affection because it could lead to sex; women may be upset about sex because it could lead to affection. Buss found that men and women are made as jealous by the thought of alienated sex as by the thought of alienated affection, but when asked to pick their torture, most men said they were more upset by the thought of their partner being sexually unfaithful than emotionally unfaithful, and most women had the opposite reaction. (The same differences are found when men and women imagine their partners being both sexually *and* emotionally

unfaithful and are asked which aspect of the betrayal bothers them more. That shows that the sex difference is not just a matter of men and women having different expectations of their partners' behavior, the men worrying that a woman having sex must also be in love and the women worrying that a man in love must also be having sex.) Buss then pasted electrodes on people and asked them to imagine the two kinds of treachery. The men sweated, frowned, and palpitated more from images of sexual betrayal; the women sweated, frowned, and palpitated more from images of emotional betrayal. (I cited the experiment in Chapter 4 as an illustration of the power of mental images.) Similar results have been found in several countries in Europe and Asia.

It takes two to commit adultery, and men, always the more violent sex, have directed their anger at both parties. The largest cause of spousal abuse and spousal homicide is sexual jealousy, almost always the man's. Men beat and kill their wives and girlfriends to punish them for real or imagined infidelity and to deter them from becoming unfaithful or leaving them. Women beat and kill their husbands in self-defense or after years of abuse. Critics of feminism have made much of the occasional statistic that American men are victims of beating and homicide by their spouses almost as often as the women are. But that's not true in the vast majority of communities, and even in the few where it is, the husband's jealousy and intimidation are almost always the cause. Often a morbidly jealous man will imprison his wife in the house and interpret every incoming phone call as proof that she is unfaithful. Women are most at risk when they threaten to leave or do it. The forsaken man may stalk her, hunt her down, and execute her, always with the same rationale: "If I can't have her, no one can." The crime is pointless, but it is the undesired outcome of a paradoxical tactic, a doomsday machine. For every killing of an estranged wife or girlfriend there must be thousands of threats made credible by signs that the man is crazy enough to carry them out regardless of the cost.

Many pundits blame violence against women on this or that feature of American society, such as circumcision, war toys, James Bond, or football. But it happens worldwide, including in foraging societies. Among the Yanomamö, a man who suspects his wife of infidelity might slash her with a machete, shoot her with an arrow, hold an ember against her, cut off her ears, or kill her. Even among the idyllic !Kung San of the Kalahari Desert in southern Africa, men batter wives they suspect of being unfaithful. Incidentally, none of these points "condone" the violence or

imply that "it's not the man's fault," as it is sometimes claimed. Those non sequiturs could be attached to *any* explanation, such as the common feminist theory that men are brainwashed by media images that glorify violence against women.

All over the world, men also beat and kill cuckolds and suspected cuckolds. Recall that rivalry over women is the leading cause of violence, homicide, and warfare among foraging peoples. As it is written in Proverbs 6:34, "For jealousy is the rage of a man: therefore he will not spare in the day of vengeance."

Unlike birds, though, humans plug their sexual jealousy into a baroque cognitive machine. People think in metaphors, and the metaphor that men have always used for wives is property. In their essay "The Man Who Mistook His Wife for a Chattel," Wilson and Daly show that men do not merely aim to control their wives and fend off rivals; they assert an *entitlement* to wives, especially their reproductive capacity, identical to the right of an owner over inanimate property. An owner can sell, exchange, or dispose of his possessions, can modify them without interference, and can demand redress for theft or damage. These rights are recognized by the rest of society and can be enforced by collective reprisals. In culture after culture, men have deployed the full cognitive apparatus of ownership in conceiving of their relationship to their wives, and until recently they have formalized the metaphor in codes of law.

In most societies, marriage is a blatant transfer of ownership of a woman from her father to her husband. In our own marriage ceremony, the father of the bride still "gives her away," but more commonly he sells her. In seventy percent of societies, someone pays when two people get married. In ninety-six percent of these, the groom or his family pays the bride's family, sometimes in cash or a daughter, sometimes in bride-service, whereby the groom works for the bride's father for a fixed period. (In the Bible, Jacob worked for Laban for seven years for the right to marry his daughter Rachel, but Laban substituted his other daughter, Leah, at the wedding, so Jacob had to work *another* seven years to acquire Rachel as his second wife.) Dowries, which are more familiar to us, are not a mirror image of bride-wealth, because they go to the newlyweds, not to the bride's parents. The husband notifies other men of his ownership in customs retained by many modern couples. The woman, not the man, wears an engagement ring, bears her spouse's surname, and is given a new form of address, *Mrs.*, short for "mistress of."

People can control their property, and husbands (and before them,

fathers and brothers) have controlled women's sexuality. They have used chaperones, veils, wigs, chadors, segregation by sex, confinement, foot-binding, genital mutilation, and the many ingenious designs for chastity belts. Despots not only kept harems but kept them guarded. In traditional societies, "protecting a woman" was a euphemism for keeping her chaste. (Mae West observed, "Men always say they're protecting you, but they never say from what.") Only fertile women were controlled in these ways; children and postmenopausal women had more freedom.

The word *adultery* is related to the word *adulterate* and refers to making a woman impure by introducing an improper substance. The infamous double standard, in which a married woman's philandering is punished more severely than a married man's, is common in legal and moral codes in all kinds of societies. Its rationale was succinctly captured when James Boswell remarked, "There is a great difference between the offence of infidelity in a man and that of his wife," and Samuel Johnson replied, "The difference is boundless. The man imposes no bastards on his wife." Both the married woman and her lover are commonly punishable (often by death), but the symmetry is illusory, because it is the woman's marital status, not the man's, that makes it a crime, specifically, a crime against her husband. Until recently most of the world's legal systems treated adultery as a property violation or tort. The husband was entitled to damages, a refund of the bride-price, a divorce, or the right to violent revenge. Rape was an offense against the woman's husband, not against the woman. Elopement was considered an abduction of a daughter from her father. Until very recently, the rape of a woman by her husband was not a crime, or even a coherent concept: husbands were entitled to sex with their wives.

Throughout the English-speaking world, the common law recognizes three circumstances that reduce murder to manslaughter: self-defense, the defense of close relatives, and sexual contact with the man's wife. (Wilson and Daly observe that they are the three main threats to Darwinian fitness.) In several American states, including Texas as recently as 1974, a man who discovered his wife in flagrante delicto and killed her lover was not guilty of a crime. Even today, in many places those homicides are not prosecuted or the killer is treated leniently. Jealous rage at the sight of a wife's adultery is cited as one of the ways a "reasonable man" can be expected to behave.

I wish I could have discussed the evolutionary psychology of sexuality without the asides about feminist theory, but in today's intellectual climate that is impossible. The Darwinian approach to sex is often attacked as being antifeminist, but that is just wrong. Indeed, the accusation is baffling on the face of it, especially to the many feminist women who have developed and tested the theory. The core of feminism is surely the goal of ending sexual discrimination and exploitation, an ethical and political position that is in no danger of being refuted by any foreseeable scientific theory or discovery. Even the spirit of the research poses no threat to feminist ideals. The sex differences that have been documented are in the psychology of reproduction, not in economic or political worth, and they are invidious with regard to men, not women. The differences should heighten awareness of incest, exploitation, harassment, stalking, battering, rape (including date rape and marital rape), and legal codes that discriminate against women. If they show that men are especially tempted to commit certain crimes against women, the implication is that the deterrents should be surer and more severe, not that the crimes are somehow less odious. Even evolutionary explanations of the traditional division of labor by sex do not imply that it is unchangeable, "natural" in the sense of good, or something that should be forced on individual women or men who don't want it.

What evolutionary psychology challenges is not the goals of feminism, but parts of the modern orthodoxy about the mind that have been taken up by the intellectual establishment of feminism. One idea is that people are designed to carry out the interests of their class and sex, rather than to act out of their own beliefs and desires. A second is that the minds of children are formed by their parents, and the minds of adults are formed by language and by media images. A third is the romantic doctrine that our natural inclinations are good and that ignoble motives come from society.

The unstated premise that nature is nice lies behind many of the objections to the Darwinian theory of human sexuality. Carefree sex is natural and good, it is assumed, so if someone claims that men want it more than women do, it would imply that men are mentally healthy and women neurotic and repressed. That conclusion is unacceptable, so the claim that men want carefree sex more than women do cannot be correct. Similarly, sexual desire is good, so if men rape for sex (rather than to

express anger towards women), rape would not be as evil. Rape is evil; therefore the claim that men rape for sex cannot be correct. More generally, what people instinctively like is good, so if people like beauty, beauty would be a sign of worth. Beauty is not a sign of worth, so the claim that people like beauty cannot be correct.

These kinds of arguments combine bad biology (nature is nice), bad psychology (the mind is created by society), and bad ethics (what people like is good). Feminism would lose nothing by giving them up.

RIVALS

People everywhere strive for a ghostly substance called authority, cachet, dignity, dominance, eminence, esteem, face, position, preeminence, prestige, rank, regard, repute, respect, standing, stature, or status. People go hungry, risk their lives, and exhaust their wealth in pursuit of bits of ribbon and metal. The economist Thorstein Veblen noticed that people sacrificed so many necessities of life to impress one another that they appear to be responding to a "higher, spiritual need." Status and virtue are close in people's minds, as we see in words like *chivalrous*, *classy*, *courtly*, *gentlemanly*, *honorable*, *noble*, and *princely*, and their opposites *ill-bred*, *low-class*, *low-rent*, *mean*, *nasty*, *rude*, *shabby*, and *shoddy*. When it comes to the trifles of personal appearance, we express our admiration for the tasteful using ethical metaphors such as *right*, *good*, *correct*, and *faultless*, and censure the tacky with tones usually reserved for sin—an attitude that the art historian Quentin Bell dubbed "sartorial morality."

Is this any way to build an intelligent organism? Where do these powerful motives come from?

Many animals are moved by pointless decorations and rituals, and the selective causes are no longer mysterious. Here is the key idea. Creatures differ in their ability to hurt and help others. Some are stronger or fiercer or more poisonous; some have better genes or more largesse. These potent creatures want everyone to know they are potent, and the creatures they can impinge on *also* want to know which ones are potent. But it is impossible for every creature to probe every other one's DNA, muscle mass, biochemical composition, ferocity, and so on. So the consequential creatures advertise their worth with a signal. Unfortunately, the inconsequential creatures can counterfeit the signal and reap the