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The Problem with Cultural Determinism

A Distaste for Biology

Many people have no particular objection to (nor, sadly, any great interest in) an evolutionary analysis of helping at the nest in Seychelles warblers or sperm competition in damselflies. But as soon as the conversation turns to evolution and human beings, voices are raised and strong opinions fly through the air with the greatest of ease. As mentioned earlier, E. O. Wilson almost surely would have avoided the brickbats that came his way had he simply omitted the last chapter of *Sociobiology*. But since he had analyzed human social behavior from an evolutionary perspective, he stimulated an opposition eager to argue with him and the discipline he represented. Although Wilson was surprised at how uncivil his critics proved to be, perhaps he should not have been because an evolutionary approach to human behavior really does threaten a great many religious, political, and academic positions, a point made by Daniel Dennett in *Darwin's Dangerous Idea* [102].

The sociobiological study of humans does not appeal to those people, academics and nonacademics alike, who believe that to understand human behavior, one can ignore evolutionary biology, and focus only on the process of cultural indoctrination, which they believe is shaped by the accidents of human history and the power of the human imagination. I am well aware that many different variants on this theme exist, each with its own adherents. Among the feminist community, for example, one finds advocates of liberal, essentialist, existentialist, Marxist-socialist, radical, African-American, psychoanalytic, and postmodernist theories, to name just some of the competing brands identified by the feminist Sue Rosser [270]. Although adherents of the different subtheories often disagree with one another, sometimes vehemently, the disagreements within a discipline tend to revolve around precisely which environmental (proximate) influences are responsible for shaping the personality, attitudes, morals, and behavior of individuals. Thus, feminist theorists argue about the relative importance of race, class, gender, societal pressures, ideology,

male oppression, and family dynamics in shaping an individual's sexual identity, as well as the manner in which knowledge on these matters can be achieved.

But despite their many differences, the bottom line for most feminists is that a person's lifetime experiences of one sort or another make the man or woman and that reference to evolutionary history is not only unnecessary but is harmful for a complete understanding of human behavior. With the notable exception of feminist sociobiologists, of which there are many, I doubt that the typical academic feminist would disagree strenuously with Ruth Bleier when she writes, "Instead, the cultures we have created, rather than our biology, impose limitations on our minds and development, construct definitions of *woman* and *man*, of male and female, and produce a science that helps to explain and justify differences of ideological, social, political and economic origins as natural and biological" (pp. 52–53 in [43]). Note that Bleier erases the important distinction between *explaining* the differences between the sexes in evolutionary terms as opposed to *justifying* certain differences as morally desirable and unavoidable, an issue to which we shall return in chapter 9.

The same emphasis on environmental determinants of human behavior is characteristic of many (but not all) academic sociologists. Thus, for example, Henry L. Tischler, author of a presumably representative introductory sociology text, now in its sixth edition, writes approvingly of critics of sociobiology who "claim that among humans, social and cultural factors overwhelmingly account for the variety in the roles and attitudes of the two sexes" (p. 218 in [313]). And Steve Bruce, in his *Sociology: A Very Short Introduction* insists on the separation of biology from culture, as in his assertion that "Human biology does nothing to structure human society" (p. 25 in [55]).

At the heart of these claims is a substantial misunderstanding, namely, the idea that some behaviors are "biological," that is, the product of nature while others are "cultural," that is, the product of nurture. The biology versus culture argument is a classic example of what Owen Jones has called "the error of the false dichotomy" [178]. This error arises because the proponents of "either culture or biology" do not recognize or accept the distinction between proximate and ultimate causes (chap. 1), nor do they realize that every behavioral trait depends on evolved physiological systems whose proximate development requires both genetic and environmental inputs (chap. 3). Persons advocating the culture or biology dichotomy typically set a proximate (i.e., cultural) hypothesis against an evolutionary one. But as noted elsewhere, proximate explanations do not replace ultimate ones, and ultimate hypotheses cannot substitute for proximate ones.

Sociologists and cultural anthropologists have a long tradition of successfully examining the proximate causes of human behavior and in so doing, they have provided a valuable analysis different from and complementary to any that could come from an ultimate or evolutionary approach. Sociobiology will never replace

traditional sociology because the two disciplines focus on different levels of analysis. But even with a complete understanding of the proximate causes of human sex roles, one could still ask evolutionary questions about such things as why people everywhere are intensely interested in sex roles and why young humans so easily learn the attitudes about sex roles characteristic of their group. Enculturation is highly dependent upon the evolved psychological mechanisms present in human brains, which means that evolutionary biology is far from irrelevant if we wish to understand human behavior.

The academics who insist that sociobiology is out of its element when human behavior is the topic for study believe that cultural (proximate) explanations supersede evolutionary ones. For advocates of this position, the great and indisputable diversity among human societies is sufficient evidence for the uniqueness of the human species and its freedom from the instinctive constraints that are so often attributed to the "lower" animals. Thus, evolutionary biologist and critic of sociobiology Douglas Futuyma writes, "Since there is almost no imaginable limit to the variety of cultural and social environments in which humans do or could develop, it is almost impossible to conclude that some conceivable form of human behavior (e.g., pacifism) does not lie within our [developmental capacity]. In fact, of course, human variation does embrace almost every imaginable behavior" (p. 529 in [135]).

Futuyma was probably influenced by information provided by cultural anthropologists, whose discipline has long been dominated by the theory that cultural practices are limitless and essentially arbitrary in nature. The first modern cultural anthropologist of note, Franz Boas, wished to assert the essential autonomy of culture from biology, thereby freeing the study of human behavior from evolutionary biology, which had become tainted by association with racism, social darwinism, and eugenics [50]. Five of his students—Alfred Kroeber, Robert Lowie, Edward Sapir, Ruth Benedict, and Margaret Mead—went on to become the leading cultural anthropologists of the mid-twentieth century. All of them conducted research that was interpreted as confirmation that human behavior developed strictly under environmental influence via cultural indoctrination.

Mead was an especially important member of this group. In 1925, she traveled to Samoa to study the transition from adolescence to adulthood in a society that she had reason to believe would have a very different approach to adolescent sexuality than her own Western society. Mead, who was just twenty-three herself, had been told by another anthropologist that Samoans had a very relaxed attitude toward teenage sex, which if true meant that here was a culture occupying the opposite side of the sexual attitudes spectrum from North American society. Documenting such a dramatic difference between societies would be a powerful statement about the power and arbitrary nature of cultural practices, completely in keeping with Boasian philosophy.

After learning the rudiments of the language in a short period, Mead located a

village with a group of twenty-five young women who were to be her informants. She spent about twelve weeks with them, recording what they had to say about the transition to adulthood in this culture. These reports were the basis for a popular book, *Coming of Age in Samoa*, which made her academic conclusions available to a general audience, which was large and enthusiastic. Mead asserted that young women in Samoa could often engage in exploratory sex prior to marriage without incurring adult disapproval, that violent rape was essentially absent in Samoan society, that sexual attitudes were much more relaxed and enlightened than in her own culture, and that as a result the adolescent Samoan was freed from the emotional turbulence that characterizes adolescence in American society.

The significance of these findings was obvious to Mead, who believed that idiosyncratic cultural practices were the basis for what people did even in the fundamental realm of sexual behavior. Therefore, one ought to be able to combat negative or damaging practices by educating the members of a culture so that they would revise and improve their culture. In her preface to a 1973 reprinting of *Coming of Age*, Mead writes, "The idea that our every thought and movement was a product not of race, not of instinct, but derived from the society within which an individual was reared, was new and unfamiliar [when her book was published in 1928]. . . . I wrote this book as a contribution to our knowledge of how much human character and human capacity and human well-being of young people depend on what they learn and on the social arrangements of the society within which they are born and reared."

Because Margaret Mead's anthropological observations were important in confirming the principle that cultural influences shape "our every thought and movement," it is worth taking a look at a highly critical reevaluation of Mead's pivotal study. The critic, Derek Freeman, a fellow cultural anthropologist, spent years doing field work in Samoa, unlike Mead, who arrived and left in short order. In a book published in 1983 Freeman documented in great detail that premarital sex in Samoa was not common or promiscuous, not accepted calmly by adults, and not part of a laid-back society with relaxed rules about sexuality [131]. In fact, fourteen of Mead's twenty-five informants had not reported any act of sexual intercourse according to Mead's own records, indicating that many young Samoan women of the time had failed to take advantage of the sexual freedom that they supposedly enjoyed.

In reality, however, Samoan culture featured an entire category of ceremonial young women whose virginity was very carefully guarded by the young women's adult relatives, who were anything but indifferent to the sexual status of their daughters, nieces, and sisters. Moreover, far from being a society so accepting of sexual promiscuity that few men could be motivated to rape, some Samoan men did indeed engage in the behavior. In fact, the Samoans had a special name for a particular kind of rapist—someone who engaged in the manual defloration of virgins, often attacking them when they were sleeping at night or after they had been knocked to the ground with a powerful blow to the solar plexus. Mead called this activity "abnormal," but she treated it almost as if it were something of a lark for all the participants. In this, she was totally mistaken, since an intact hymen was absolutely essential if a woman was to secure an arranged marriage with a male of high social status.

Freeman attributed Mead's errors to a combination of factors, including her inexperience as a field worker, the very short time that she actually spent on her project, her relative unfamiliarity with the language, her inability to see that her female informants were kidding her when they spoke of their sexual adventures [132], the misinformation she had received from her colleague about Samoan culture, and above all, the ideological blinders that she had acquired from Boas and his other students. She had seen what she wanted to see, in this case that cultural norms were the arbitrary products of human invention.

Freeman's dismantling of Mead's early research outraged many cultural anthropologists [74, 281]. Freeman's critics claim that he dramatically overstated the influence of the putative liars among Mead's Samoan informants, that he did not acknowledge Mead's comments about possible sexually repressive elements in Samoan society, that he understated Mead's later suggestions that biological and evolutionary factors must also be taken into account when explaining human behavior, and that he was unnecessarily abrasive in dealing with Mead and unjustly self-congratulatory in evaluating the importance of his criticism.

All of which may be true, but did Mead describe Samoan society accurately? Adam Kuper, longtime editor of the journal *Current Anthropology* and no friend of Derek Freeman's, concedes that "Freeman's ethnographic criticism is not disputed on most points" (p. 193 in [195]). James Côté, another nonmember of Freeman's fan club, admits that "Mead did provide misleading embellishments when it came to writing the book [*Coming of Age*] for the general public" (p. 32 in [74]).

And Mead's "embellishments" had real consequences. She was for decades the public's favorite anthropologist as well as a very considerable force within her discipline. Although not by any means the most extreme advocate of cultural determinism, she provided conspicuous, honored, academic support for the idea that the really important effects on human behavior arise strictly from cultural influences. Kuper is honest enough to acknowledge this point when he writes, "In Mead's work, the power of culture was very great, the force of biological constraints less evident" (p. 190 in [195]).

Some of Mead's defenders have noted that she made statements from time to time acknowledging that biological and evolutionary factors have played some role in shaping human behavior. Indeed, this kind of generalized "concession" to our evolutionary history is not uncommon for cultural determinists. But these persons rarely specify exactly how natural selection or any other evolutionary process may

have shaped our actions. The statement that our history as an evolved species has something to do with our capacity for culture generally serves little more than to provide the cultural determinist with the ability to say that he has accepted an unspecified "biological component" to our behavior.

This tactic is not restricted to cultural anthropologists but has, for example, been regularly employed by Stephen Jay Gould. In an early essay written shortly after *Sociobiology* was published, he claims, "Thus, my criticism of [E. O.] Wilson does not invoke a non-biological 'environmentalism'; it merely pits the concept of biological potentiality, with a brain capable of a full range of human behaviors and predisposed toward none, against the idea of biological determinism, with specific genes for specific behavioral traits" (p. 20 in [147]). But Gould did not then explain, indeed he has never explained, how the concept of an amorphous "biological potentiality" differs from a "nonbiological environmentalism," that is, the cultural determinism of Boas and Mead. In essence, Gould is saying that, yes, people have genes that survived past natural selection, but their only developmental function is to help provide us with an all-purpose learning ability, which is used without any predisposing biases as an enculturating device.

Many people want to believe that Mead and Gould are right when they and others claim that our brains are free from evolved attributes that steer our behavior in particular directions. For these persons, it is reassuring to hear that we are unique among species in having the behavioral capacity for any and all choices thanks to our status as the most highly evolved species, the end point of evolution, "God's children," or more modestly, at least a much less animalistic creature than your average run-of-the-mill animal. It is ironic that Gould, who has argued so energetically (and correctly) that humans are just one more product of standard evolutionary processes, one more currently surviving twig on an astonishingly bushy tree of evolution composed of millions of other species, should have also taken the position that standard evolutionary processes ceased to apply to us when our ancestors came up with the first cultural innovations.

Freeman's refutation of Mead's work is in essence an attack on the escape hatch, the way around biology and evolution that so many have embraced when thinking about human behavior. To demonstrate that Mead's conclusions about Samoan society were more ideologically sound than scientifically valid, after her "findings" had been so popular with social scientists for decades, is to threaten the entire house of cards built on the foundation that our brains are "capable of a full range of human behaviors and predisposed toward none."

The Shortcomings of Blank Slate Theory

The advocates of the blank slate, "culture is all" approach could not have retained such confidence in their position if they had been willing to devise truly rigorous tests of their ideas. Consider Mead's test of Boasian theory. She believed that finding even a single society with adolescent sexual promiscuity and a tranquil transition from adolescence to adulthood would constitute critical support for the idea that human behavior was utterly flexible. But would it? What if Western Samoa had really been a sexually relaxed culture, and most other cultural groups in the world were ones in which parents (or other family members) tried to control the sexual activities of their adolescent daughters (or female relatives) to a considerable degree, even at the risk of engendering conflict within the family? Or what if almost all the cultures that make value judgements about female virginity place a higher value on virgin brides than on nonvirgin brides? Finding an exception or two to a rule does not invalidate the rule, any more than finding one or two professional football players who weigh less than 200 pounds means that body weight has little do with success on the football field.

Yet the readiness to banish all generalization on the grounds that an occasional exception exists appeals to both academic and nonacademic opponents of sociobiology. Thus, Natalie Angier felt that she could dismiss the evolutionary argument that men have an evolved predisposition to provide parental care for their children on the basis of reports that among the Hazda, a tribe of hunter-gatherers living in northern Tanzania, men do not offer the game they kill preferentially to their wives and children. Angier does not acknowledge that Hazda men do provide more child care for their genetic offspring as opposed to stepchildren [225]. Nor does she ask whether the hunters tend to supply food to other potential or actual sexual partners and their children, or give game primarily to the families of other men with whom they wish to forge mutually beneficial economic relationships. Instead, for her, "this is a startling revelation, which upends many of our presumptions about the origins of marriage and what women want from men and men from women" (p. 351 in [20]). But what if we found that in, say, 85 percent of all cultures males provided a substantial portion of their presumptive children's economic support? Would we then be justified in saying that this common pattern was totally irrelevant to understanding the evolution of marriage, parental care, and male and female psyches? Would we really give more weight to the exceptions than to the rule itself?

The arbitrary culture theory that Mead, Angier, and others have accepted generates a testable prediction, namely, that widespread patterns in human behavior should be exceedingly rare. If we truly believe that cultural practice is limited only by human imagination, then it follows that human behavior should differ greatly and arbitrarily from society to society. The result? No predominant patterns, no activities characteristic of large majorities of the world's peoples, only special cases, a large catalogue of exceptions, and most certainly, no consistent tendency for human traits to advance the different genetic interests of individuals.

For the sociobiologist, however, our evolved psychological mechanisms, characteristic of the entire species, should greatly influence the evolution of cultures

with the result that some practices ought to be far more likely to emerge than others. For example, because male fitness will almost always increase to the extent that the male monopolizes fertilization of the eggs of his wife or wives, men are expected to have evolved psychological mechanisms that make issues of paternity and female reproductive potential matters of great importance to them (chap. 4). These mechanisms, if they exist, will surely bias the development of cultural traditions in favor of those that place value on adolescent virginity and that make virginity a desired feature of a marriage partner. Virgins are not heavy with the child of another male at the time of marriage nor are they burdened with offspring from previous liaisons; furthermore, adolescent virgins are young and therefore have many pregnancies in front of them (or at least they did in human groups during our evolutionary past when modern birth control did not exist).

If men consider virgins especially valuable marriage partners, it is not only potential husbands who can be expected (predicted) to take great interest in the sexual status of adolescent women. If the relatives of unmarried women can ensure that these females become valued wives for members of other groups, they may benefit from the bride price received or from the strengthening of political alliances between the lineages involved. The interests of parents and daughters, uncles and nieces, brothers and sisters can therefore diverge, producing the prediction that conflict over the sexual activity of young women will generally be stronger within extended families than conflict over the sexual proclivities of young men.

These several sociobiological predictions are in direct contrast to expectations derived from the cultural determinist wing of the social sciences. These academics should be willing to predict that females with offspring will be considered superior potential wives in as many societies as those in which a premium is placed on virgin brides. The blank slate theorist ought to put his money on a fifty-fifty split in societies with respect to whether sons or daughters engender more family restraints on offspring in conflict over sexual matters. There should be as many societies in which rape is absent as present, as many societies in which women can claim several husbands as those in which men are permitted to have several wives. My point is that we can test social science explanations in a rigorous manner if we so choose. And the proposition that there are no restrictions on cultural diversity, no evolved biases in our behavior, is not supported when one finds a society or two that does not follow the norm.

Blank Slates and Beauty

So let us test blank slate pronouncements about a number of human attributes. We begin with the question, Why do men have standards of beauty that they apply to women? The feminist Naomi Wolf has something to say about this matter, which she does in the form of a blanket rejection of the possibility that our standards of

beauty reflect the operation of evolved proximate mechanisms with adaptive value. Indeed, in her popular book, *The Beauty Myth*, Wolf argues that the sociobiological approach is highly pernicious because persons who adopt the evolutionary approach supposedly believe that such standards are desirable, natural, and morally correct [348]. We shall ignore, for the moment, the great difference between claiming that a trait has evolved and insisting that the trait is morally desirable (see chap. 9). Instead, let us consider Wolf's alternative explanation for male standards of feminine beauty.

She writes, " 'Beauty' is a currency system like the gold standard. Like any economy it is determined by politics, and in the modern age in the West it is the last, best belief system that keeps male dominance intact. In assigning value to women in a vertical hierarchy according to a culturally imposed physical standard, it is an expression of power relations in which women must unnaturally compete for resources that men have appropriated for themselves" (p. 3 in [348]).

Wolf thinks that because the perception of female beauty is a *culturally imposed* phenomenon, it lies completely outside the realm of evolutionary analysis. She and others who make this argument may wish to believe in the possibility of a purely culturally imposed educational solution to the inequities that result from the unpleasant tendency of men to rank women according to a particular scale. Perhaps such a solution would be more likely to succeed if the perception of beauty was indeed "only" a cultural phenomenon. But the question remains, Is this trait a purely arbitrary artifact of cultures? We can begin to answer the question by asking a few others. Are there universal features of appearance that correlate well with the fertility, health, and lifetime reproductive potential of women? The answer is yes. For example, unwrinkled, unblemished skin is far more likely to be possessed by young, healthy women than by older (less fertile) or less healthy (less fertile) women. Are young, healthy women more likely to become pregnant and sustain a pregnancy successfully than older or less healthy women? The answer is yes. Is there any species of animal on earth in which males are more likely to mate with infertile females than with fertile ones, if given the opportunity to choose between the two? The answer is obvious. How likely is it that millions of years of natural selection on humans and their immediate ancestral species would produce a male psyche easily culturally conditioned to be indifferent to the cues associated with fertile women? The likelihood is exceedingly low. Such an outcome would require the improbable, namely, that men in the past who were culturally conditioned to seek out women of relatively low fertility had as many descendants as those men who found females of higher fertility more attractive.

But what about the actual data? Are the standards of beauty in Western culture arbitrary or are they related to the potential reproductive value of women? Table 7.1 lists some feminine features that appear to be favored by men in our society and the physiological correlates of women with these attributes. Even a glance at

the table indicates that male preferences have not been drawn out of a hat [310]. The physical features that men find attractive are properties of young adult women in current good health who are primed for successful reproduction. Thus, the preferred body mass index of women is twenty to twenty-four kilograms per meter^2 of height (fig. 7.1); women within the preferred range enjoy better health and longevity than those outside it [316].

Not every study has found that body or facial symmetry are preferred attributes of potential mates in humans, but a considerable number have. The adaptive significance of such preferences, if they exist, also remains uncertain, although body symmetry in bilaterally symmetrical creatures such as ourselves may be an indication that the individual was able to develop under good conditions. In contrast, individuals experiencing harsh environments or genetic defects may have difficulty developing symmetrically with respect to their external features. Difficult developmental circumstances also may increase the odds of less than optimal maturation of the physiological systems that support survival and reproduction. At least two studies have shown that body symmetry correlates with offspring success in some human populations [233, 331].

When confronted with research findings of the sort we have just reviewed, opponents of sociobiology sometimes argue that human mate choice is "very complex," with a host of factors other than the perception of beauty coming into play when men seek out women, especially to be their wives. In many societies, for example, marriages are arranged with neither the prospective husband or wife consulted in much detail about their preferences, especially those based on the physical features of a mate.

Table 7.1.
Some attributes in women that men find attractive and their probable signal value as indicators of high reproductive value

Attribute	*Probable Signal Value*
Smooth, unblemished skin	Youthfulness and good health [32]
Symmetrical faces and limbs	Developmental stability indicative of "good genes" or good nutritional experience during development [157]
Facial averageness	Optimum normal development and (?) resistance to parasites [197, 309]
Prominent cheekbones	Sexual maturity [79]
Small chin, small nose, large eyes, and full lips	High estrogen levels during development and youthfulness [175]
Waist-to-hip ratio of 0.7	Current high estrogen levels, ample fat reserves, and good health [290]; a higher probability of becoming pregnant [357] and a lower probability of early mortality [129]
Large, firm, symmetrical breasts	Developmental stability, youthfulness, and immune system competence [215, 224, 291]
Body-mass index[1] of 20–24	High fertility and low mortality rates [316]

[1]Body-mass index = body weight in kg/height in m^2

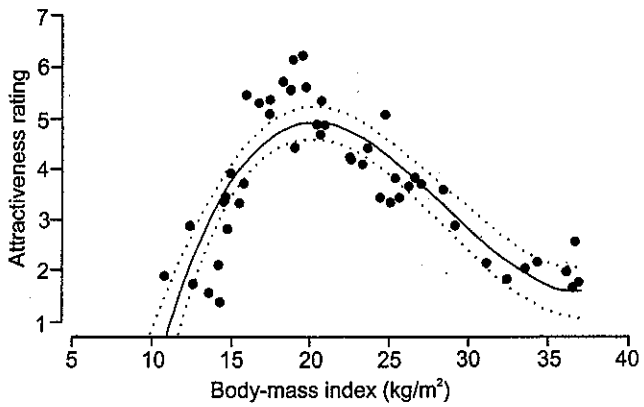

Figure 7.1. The relationship between the body mass index of women and their mean attractiveness rating. Women who are neither exceptionally heavy nor exceptionally thin for their height were judged more attractive by forty undergraduate males who viewed photographs of bodies only (faces were not visible). From [316].

True enough, but sociobiologists do not dispute the complexity of mate choice nor the fact that even in our culture, some, even most, or perhaps all individuals will fail to secure an ideal partner in every proximate or ultimate respect. Thus, when Meredith Small announces, "I have . . . chosen to spend the last decade with an artist, a man with no money and few goods beyond a bunch of paint brushes," while her husband, "has chosen me, a woman much older than himself, one with low fertility who hasn't seen a decent hip-to-waist ratio in years" (p. 5 in [293]), she has not provided particularly convincing evidence against sociobiology. As Owen Jones points out, because sociobiological hypotheses "are not about 'always,' they cannot be disproved by a 'sometimes.' This is not evasiveness, but rather a necessary by-product of the fact that behavior is plastic and can be influenced by predispositions (not predeterminations) that are environmentally sensitive" (p. 886 in [178]).

Indeed, sociobiologists do not claim that every male will succeed in fathering dozens of offspring with a harem of nubile twenty-year-olds nor that every female will pair off happily with a devoted Ted Turner or his economic equivalent. Instead, the sociobiological prediction is that *on average* the evolved psychological systems of men and women should help them do a *better* job at mate selection than if their

choices were the truly arbitrary products of cultural invention. And by "doing a better job," the sociobiologist does not mean a perfect job, only that mate preferences should enable men faced with real-world constraints on their sexual activity to achieve greater genetic success than if their mate preferences were essentially random with respect to female reproductive potential. Males with brains shaped by selection should tend to desire sexual partners of the sort that in the past would have been more likely to get pregnant, if inseminated. As a result, men are more likely to mate with fertile partners than if their brains operated in some other manner.

One psychological bias that should contribute something toward adaptive mate choice by men would be an interest in the physical features of potential mates coupled with a psychological capacity to attach value to cues correlated with high fertility or fecundity. This prediction has been inspected to some extent; even though many more data are desirable, the information assembled over the past decade strongly suggest that men are extremely interested in a variety of features of women's faces and bodies that are linked with high reproductive potential. How many men are consciously aware of the connection between full lips and female fertility? I doubt that many are, but they do not have to be, thanks to their evolved proximate psychological systems that direct their attention to the relevant cues and attach positive emotional valence to stimuli that are present in women likely to generate offspring if inseminated.

In contrast, consider what the blank slate theorist is asking us to believe, namely that in western society our cultural values and experiences, which supposedly are the products of the unfettered imagination of culture shapers in the past, somehow manage to form male judgments about female beauty so that with respect to every favored attribute (e.g., full lips over thin ones, waist-to-hip ratio of 0.7 instead of 0.8 or 0.6, prominent as opposed to subdued cheekbones) men just happen to favor the characteristic that is associated with high reproductive value in women. The blank slate theorist is asking a great deal of accident and coincidence.

But we need not stop here. Sociobiological and blank slate theorists make diametrically opposed predictions about the cross-cultural distribution of male perceptions about what makes a woman beautiful. The sociobiologist predicts that standards of beauty will be allied with female reproductive potential. The blank slate theorist should predict that the standards of beauty will run the gamut from A to Z as we move from culture A to culture Z. In reality, the general rule is that men from different cultures rate the attractiveness of women of different cultures and races very similarly [80]. Thus, the cross-cultural research conducted to date on this point largely supports the sociobiological prediction that the standards of female beauty adopted by males encourage men to pursue fertile women. For example, male Russians, Americans, Japanese, Brazilians, Paraguayan Indians, and Venezuelan Indians all found hormone-based cues of youthfulness, including large eyes, small noses, and full lips, to be attractive in female faces [176, 177, 249]. Moreover, in every single one of the thirty-seven societies surveyed by David Buss, men stated that they preferred younger women as wives. In all thirty of the cultures for which actual marriage data were available, men acted on their preferences, so that wives were younger than their husbands by an average of three years for the sample as a whole [56].

Of course, a problem with any cross-cultural study these days is that much of the world has been inundated with advertisements and other media messages from America and Europe, thereby homogenizing human cultures considerably. Therefore, critics of evolutionary work on beauty standards can and do argue that similarities in male preferences around the world arise from cultural contamination. One way to test this hypothesis is to find a culture that has not yet been exposed to western culture, at least not to an overwhelming degree. Such cultures are exceedingly rare but Douglas Yu and Glenn Shepard found one—the Yomybato, who live in a large isolated reserve in southeastern Amazonian Peru. A sample of Yomybato men shown the same female outlines (fig. 7.2) used in other studies of waist-to-hip ratios (WHR) exhibited a marked preference for drawings of women with a high WHR. This finding contrasts with the results of previous cross-cultural studies, which had found that men of different cultural backgrounds usually consider drawings of women with low WHR, that is, with small waists and large hips, to be more attractive than those with a higher WHR [134, 290, 292]. Yu and Shepard argue that these previous studies in which low WHR females were judged more attractive "may have only reflected the pervasiveness of western media" (p. 322 in [356]).

Maybe so. However, other interpretations are possible [216, 315]. For example, according to Yu and Shepard, Yomybato women "of child-bearing age have high WHRs even before first pregnancy, and post-childbearing women are thin and have a low WHR." Furthermore, Yomybato men explained that the narrow-waisted figures looked like women who were ill with diarrhea. If so, a preference for high WHR may lead Yomybato men to favor women with features that *in their environment* are associated with reproductive competence and good health.

Among the figures with the same high WHR, Yomybato men had a decided preference for the most "overweight" image [356] in contrast to male subjects in most other studies who consider most attractive drawings or photographs of women of normal weight [316]. Given that women in the normal weight range in Western society are more fertile and more healthy on average than either extremely underweight or obese women [217, 267], the standard male preference once again matches the evolutionary expectation that male sexual preferences are linked to female fertility.

How then to account for the apparently maladaptive preference for overweight women by Yomybato males? If, as I suspect, obesity was all but impossible for precolonial Amerindian women living in tropical forest bands, since high-calorie

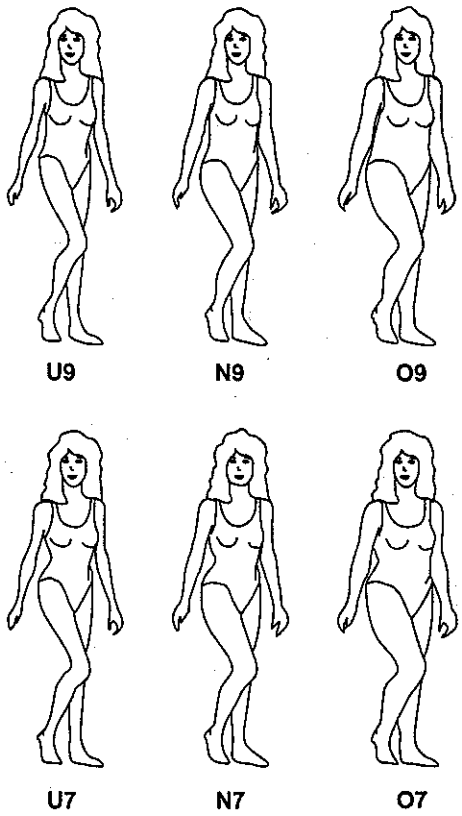

Figure 7.2. Drawings of women with different waist-to-hip ratios (WHR) of the sort that have been used in studies of male preferences of this attribute. Yomybato men claimed that they preferred the O9 figure. (U = underweight, N = normal, O = overweight. Two waist-to-hip ratios are shown, 0.9 and 0.7, and labeled 9 and 7.) From [290].

foods are scarce in this environment and stone tools make it difficult to harvest what is available, then a male preference for the largest available women would in the past have encouraged males to have sexual liaisons with women with relatively large fat reserves and relatively high fertility *in the ancestral Yomybato environment.* This hypothesis is, needless to say, untested at the moment. But we cannot yet dismiss the possibility that Yomybato men evaluate the physical features of women in ways that motivated their ancestors to seek out mates with higher than average reproductive potential. Moreover, even if the Yomybato and a few other groups prove to be an exception, it will remain true that in the vast majority of cultures, men generally find women of high fertility attractive, indicating that male standards of beauty are anything but evolutionarily arbitrary.

Blank Slates and Genocide

The arbitrary culture/ blank slate argument has, of course, been applied to many other elements of human behavior besides male analysis of female beauty. One such topic is genocide, the mass murder of one group by another of different cultural background, a matter discussed by Gould in one of his *Natural History* essays. Gould dismisses the possibility of analyzing the genocidal actions of some people from an evolutionary perspective. He writes, "An evolutionary speculation can only help if it teaches us something we don't know already—if, for example, we learned that genocide was biologically enjoined by certain genes. . . . but the observational facts of human history speak against determination and only for potentiality" (p. 64 in [151]). Continuing in this vein, Gould states, "when we recognize that everything distinctive about the cultural style enjoins flexibility rather than determination, we can understand why a cultural phenomenon like genocide (despite any underlying biological capacity for such action) cannot be explained in evolutionary terms" (pp. 66–67 in [151].

Here Gould invokes a deterministic sociobiology (see chap. 3) for the usual reasons, that is, to be able to destroy a strawman that most people are happy to see torn apart. We all know that no gene or genes in the human genome *guarantees* the performance of mass murder. To learn that this position is the only possible sociobiological argument makes it easy to ignore such arguments. As we shall see shortly, however, Gould's version of an evolutionary approach to genocide bears little or no relation to how evolutionary biologists would actually tackle this issue.

But before we look at what sociobiology has to say about genocide, let's test Gould's preferred alternative, which is based on the notion of cultural flexibility unfettered by our evolved psychological mechanisms. The open "biological potential" hypothesis generates a key prediction, as noted above. If our brains really lacked any predispositions to learn this over that but were simply blank slates upon which could be etched any imaginable cultural instructions, then we would not

expect to find great similarities in the practices of groups whose cultures had developed independently of one another.

Gould is willing to spell out this expectation in his essay on genocide. He says, "Each case of genocide can be matched with numerous incidents of social benevolence; each murderous band can be paired with a pacific clan" (p. 64 in [151]). Although Gould does not actually present the data that would support this claim, it can be treated as a prediction from arbitrary culture theory, namely, that surveys of cultures should reveal that a more or less random distribution of the genocidal practice, with it appearing in group A but not in group B only because of a quirk of cultural history.

Actually testing this prediction poses difficulties. Among other things, we have to define precisely what constitutes a case of genocide and control for the fact that some cultures have had the opportunity to borrow heavily from other possibly genocidal (or nongenocidal) groups while still other societies have been physically forced to adopt the traditions of other genocidal (or nongenocidal) groups. Even so, we can judge the plausibility of the prediction that genocide is the random result of arbitrary cultural forces thanks to the work of Jared Diamond [105], a physiologist and ecologist who has written several superb books on human evolution and behavior [106, 107]. When Diamond discussed genocide, his goal was not to test the hypothesis that the trait arises as the arbitrary result of cultural history but we can nevertheless make use of the evidence he gathered. These data offer very little support to adherents of blank slate theory. In the first place, many cases of genocide, both small (involving dozens of deaths) and large (resulting in more than 100,000 deaths), have occurred on *every* continent except Antarctica within historical times (fig. 7.3). The widespread distribution of the behavior and its occurrence in all sorts of societies is not compatible with the idea that genocide arises simply because of the accidents of cultural history. If it did, we would surely expect it to be very rare or absent from at least one continent. Moreover, we can say with certainty that genocide is not purely a modern cultural invention to be attributed to the novel features of twentieth-century "civilization."

Even more importantly, patterns exist both with respect to the kinds of situations in which genocide takes place as well as the apparent motivating factors. As Diamond writes, "Perhaps the commonest motive for genocide arises when a militarily stronger people attempts to occupy the land of a weaker people, who resist" (p. 259 in [105]). In other words, genocide is not practiced in an utterly arbitrary fashion: more often than not, it has as its consequence the acquisition of valuable resources from those who tried to defend what was once theirs. Even in those cases that do not involve territorial conflict between opposing groups, some of which are categorized by Diamond as scapegoat killings of minorities, such as pogroms against Jews, you can be sure that the killers took whatever they could from those

Figure 7.3. Examples of the worldwide occurrence of genocide in three periods of human history. The number of persons killed exceeded 100,000 in 16 of the cases shown here. Genocides known to have occurred prior to 1900 are shown as circles; squares show locations of genocides from 1900 to 1950; more recent examples are shown as triangles. Modified from [105].

whom they killed or displaced. Thus, the effect of many, perhaps most, "successful" genocides during historical times has been the enrichment of those in charge of the killing.

The other pattern that emerges from any examination of genocide is the role of certain proximate psychological mechanisms in helping humans slaughter their fellow humans *in good conscience*. In addition to the motivating effects of greed and envy, humans are, as Diamond notes, remarkably eager to divide their fellow man into "us" versus "them," and to accept two utterly different ethical and moral standards for members of the two groups. Those who are with "us" are viewed in a favorable light, treated as the potential cooperators that they are, and accorded the protection that comes from moral codes, such as the Ten Commandments, which are designed to apply to members of the us-group [164]. In contrast, those who are said to be "them" are much more likely to arouse negative feelings and overt hostility, so much so in some cases that their murder can become a morally justifiable goal. Thus, for example, American presidents from George Washington to Teddy Roosevelt have viewed the destruction of American Indians with equanimity, even great satisfaction, as their pronouncements, which Diamond has assembled [105], make chillingly clear. Likewise, John Hartung notes that the Old Testament argues

that it is a moral necessity for the Israelites to destroy their enemies utterly, so much so that the "Bible is a blueprint of in-group morality, complete with instructions for genocide, enslavement of out-groups, and world domination" (p. 97 in [164]).

The fruits of our "us versus them" psychology are evident in the nationalism, regionalism, racism, and factionalism that informs human attitudes everywhere about members of other nations, regions, suburbs, races, religions, political parties, professional sports teams, academic disciplines, academic subdisciplines, and academic sub-subdisciplines. Does anyone seriously believe that somewhere on the planet there live large numbers of people who feel more warmly on average toward members of other organizations than the ones to which they themselves belong? Although Woody Allen joked in one of his movies that he did not want to be a member of any group willing to have him, most of us have a highly positive opinion of the groups willing to accept us.

If Diamond is right, the *potential* to commit genocide under certain conditions rests in part on evolved proximate mechanisms that make it satisfying to adopt moral positions based on group affiliation. Neither the ultimate consequences nor the proximate causes of genocide are the random or arbitrary effects of enculturation. Of course we have to learn what groups we belong to and of course we have to learn exactly why we should hate or tolerate or actively cooperate with members of another group. But, as I shall argue in more detail in chapter 8, our interest in learning about these matters is anything but neutral. Our brains have been shaped by natural selection and they therefore come prepared to facilitate certain kinds of learning, certain kinds of emotional responses, and certain strategies of decision-making. As a result, the neural machinery inside our skulls guides us toward a limited set of decisions from among the infinite array of potential options.

Donald Brown, a cultural anthropologist willing to test blank slate theory, has done us all a favor by reviewing the critical evidence on the central prediction from the theory that human behavior is arbitarily diverse and variable. Brown found that, contrary to this prediction, humans everywhere share a host of attributes, so many that even outlining the traits in question required ten pages of text. The use of a learned, symbolic spoken language supplemented with communicative gestures and facial expressions is of course at the very core of humanity. Everywhere language is employed taxonomically to categorize (among other things) kin in relation to genetic relatedness with separate terms for mother's and father's lineages. People around the world are social beings, intensely interested in sex, sexual relationships, sexual access, and degrees of sexual attractiveness. The mating systems they adopt are vastly more likely to encourage polygyny than polyandry. People are capable of sexual jealousy and concerned about sexual modesty. They gossip. Our social nature is also reflected in our concern about and capacity to deduce the intentions of others, whom we recognize as individuals rather like ourselves in psychological terms. People adopt rules of behavior and the means to deal with violations of the norm; they invent law and religion, dance and music, games and competitions for status, and on and on [50].

Moreover, as another cultural anthropologist, Lee Cronk, points out, the cultural diversity that actually exists is dwarfed by the total number of combinations of cultural variables that could conceivably exist in what he calls *ethnographic hyperspace* [77]. Think of how many different combinations could be created with respect to just three of the many hundreds of traits found in human cultures: the interpretation of facial signals, residence patterns for newlyweds, and concepts of time. Although a vast array of combinations are possible, only a handful actually occur. Nowhere do humans look at a frowning companion and imagine that the person is happy; no societies exist in which newlyweds go to live with the wife's father's sister's family whereas in quite a few, newly married couples move to be near the husband's mother's brother; and in every society studied to date, people share the notion of time as a continuum and they talk about events in the past, present, and future. The traditional preoccupation of cultural anthropologists in cataloguing the differences between cultures has kept some of them and many of us from seeing the cultural similarities among different peoples, similarities that tell us something about the nature of the brain and its effect on the evolution of culture.

If Brown and Cronk are correct, the blank slate theory of the human brain is wrong. Such an approach requires that several million years of selection acting on a social species organized into small, genetically distinct family groups had no impact on the evolution of the brain other than to enlarge it, the better to acquire whatever cultural information individuals happen to be exposed to. Everything that we know about how selection works tells us that such a position is wildly implausible. Yet this is precisely the unlikely philosophy that Gould, Mead, and many social scientists and some feminists would have us accept largely on ideological grounds. That this position has any residual credibility can be attributed largely to the power of wishful thinking that some special meaning accrues to human existence. As Pierre van den Berghe, a sociologist with a genuine understanding of evolutionary theory, has pointed out, "It is not easy to accept that evolution is a meaningless tale told by an idiot" (p. 175 in [324]). Indeed, most people find it hard to believe that blind evolutionary processes have created us, a creature whose unconscious ultimate goal is no different from that of the slime mold, the aardvark, the pine tree, and the earthworm. Although this point is evidently unpalatable, it is true nonetheless.