



A Female Priority for Stability vs. a Male Priority to Invade and Conquer

Martian Men and Venusian Women

Is there *any* reason to think women would do *anything* differently from what men have done? Many women like to think they would, but liking to think so doesn't make it true—or even likely to be true. If women had power, perhaps its seductive sway would lead them to act exactly like men.

If we look only to American culture, we might infer that women are less aggressive than men and so, surely, they would do things differently. But looking to only one culture and being guided by “gut feelings” easily leads to erroneous thinking. To explore the question of whether significant male/female differences might transcend culture, I start by turning to the field of evolutionary biology.

John Gray has become famous for saying: “Men are from Mars. Women are from Venus.” His book by that title, one of the most popular relationship books, suggests how men and women can

understand their differences in order to communicate better and get along.

Some differences Gray describes are what anthropologists can demonstrate to be superficial (changing fashion can quickly alter them) or they are cultural (not based on genetics and thus changeable, although often not readily). But this familiar phrase also expresses a significant kernel of biological truth. Some differences between men and women have deep genetic origins and are, for all practical considerations, unchangeable.

Evolutionary biologists have for years been exploring what they call male and female reproductive strategies. I focus here on the work of Sara Blaffer Hrdy, an anthropologist whose specialty is primate social behavior. She has written several impressive survey books, the latest of which is *Mother Nature*. This sterling piece of academic writing, scrupulously documented and so well written it's quite accessible to lay readers, presents in detail a list of references as well as the kind of evidence that forms the backbone of the following steps of biological logic. Another excellent and brief discussion of most of these biological points is Deborah Blum's introduction to her book, *Sex on the Brain*.

The Biological Logic

Keep in mind two biological facts: first, we are mammals and, like all female mammals, our females produce milk to feed their offspring. And second, we're primates, related to chimpanzees, gorillas, and orangutans and more distantly to baboons and monkeys. Keeping these biological facts in mind, the biological logic goes like this:

1. For all living things, the **basic biological bottom line is to reproduce and have offspring that in turn have offspring**. Genes of individuals that fail to reproduce are eliminated from the great evolutionary game of life. This means that the behavioral inclinations coded in those genes are not passed to subsequent

generations. There are some subtleties here—for example, highly social animals (bees, humans) can often contribute some genes to the future by aiding close relatives who possess the same genes rather than reproducing themselves—but such subtleties don't alter the basic biological reality.

2. For female mammals, and certainly for **female primates, reproducing successfully is a very expensive proposition.** Female primates carry an offspring to term, protecting and nourishing it within their body, often for many months. Then they provide milk to nourish it for weeks if not months or even years more. They must protect it, care for it, and support it sometimes for many additional years before it is old enough to reproduce. For every parent raising children, whether in the United States, Brazil, Thailand, or Ghana, the extensive costs involved (in time, energy, risk, and resources) resonates deeply. And then, in most cultures, once a child is raised, females remain involved in ensuring that the offspring of their offspring—their grandchildren—also survive. This is, beyond doubt or argument, an extraordinarily expensive process.

3. As a consequence of the above, the **ideal condition for female primates to carry out this difficult and expensive feat is social stability for long periods.** Serious social turmoil or anything that threatens the life of these expensive offspring before they can reproduce—and certainly war that results in their death or the death or loss of their primary caregiver, their mother—is hugely counterproductive.

4. For **male mammals**, including male primates, the biological game is usually quite different, because they **do not invest as heavily in the survival of their children as females do.** In some primates, fathers contribute little or nothing beyond their sperm. While human males often become involved in support and protection of their young, this isn't the case in all cultures (see, for example, the Mosuo described by Hua where technically there isn't

even an institution of marriage), and in few cultures does a father's investment approach that of a mother. There are some notable primate exceptions, tamarins for example, but compared to females, male mammals including male primates are generally more involved in spreading their seed widely than investing heavily in any given offspring.

5. Consequently, for male primates, social stability is not as high a priority as it is for females. For example, in her first major book, *Infanticide*, written with colleague Glenn Hausfater, Hrdy documents a number of cases where males form a group or team and move into an established troop, drive out or kill the resident males, and then kill the young—that is, these males invade and subsequently commit infanticide. Even males of other mammalian species, like lions, behave similarly.

Killing the young means that their mothers stop suckling and begin their estrous (menstrual) cycles again so that they are fertile. For the invading males this means they can breed sooner than if they had tolerated the offspring of the vanquished males. By cooperating in this group action, an invading male increases his chances of gaining access to the premier biological resource for a male: a female or females he can impregnate.

At the same time, this male aggression is likely to give invading males access to other critical resources on the captured territory: food, water, new places to shelter. The benefits of such male cooperative aggression are multiple and great. There is no mystery at all that evolution has favored this type of male aggression in a variety of primates, including humans.

From *Mother Nature* and *Infanticide* you can form your own assessment of the power of competition for resources such as food, territory, or access to females, to shape the evolution in many primates of a male tendency to band together for invasion. In my view, while human males may have evolved often under an

imperative to invade and conquer, a basic reproductive imperative for females has been to do whatever they can to foster social stability. I propose that a female inclination to facilitate social stability is as deeply evolved in humans as the well-known and frequently discussed male inclination for group aggression.

This is why things would be different if women ran the world—specifically, society would be more socially stable. Because of a female’s unavoidable and costly commitment to her offspring, basic human female biological priorities are different from those of males.

These differences are not cultural. Their origins are deeply rooted in our evolutionary past. We inherit them from our pre-human primate ancestors. Given free rein and uncurbed by social or ecological forces, these opposed tendencies—with males ready to bond together in acts of aggression and females more inclined to seek social stability—will play themselves out in our group behavior. Not to take them into consideration when discussing the question of war and how to make a lasting peace is a profound error.

The Genetics of Inclinations

There is no gene for “doing war,” no gene for “working toward stability.” When it comes to making complex decisions between competing choices, genes aren’t at all directly involved. Rather, they affect behavior by directing the construction of brains and endocrine organs and sense organs. It takes many genes working in concert to direct the growth and assembly of these body structures, including delicate brain architecture.

Once a brain is constructed during embryonic development, it becomes the body’s decision-maker. Environmental stimuli are detected by sense organs—our ears and eyes and so on. The quality or “amount” of a stimulus is coded as electrochemical signals passed along nerve cells to the brain, our CPU (central processing unit).

There, inside our skulls, the brain decodes and manipulates the signals. The location in the brain where these impulses end up

determines how the brain interprets the input. Impulses coming from the eyes are interpreted as visual signals. If the signals arrive at the part of the brain linked by neural paths to the nose, the brain interprets the input as smell. All this information from our sense organs is subsequently processed in a variety of complex ways.

One of the results of this processing is often an emotional response. The brain's structure, the result of numberless generations of natural selection, determines whether we experience the stimuli that have come in as pleasing or noxious, delightful or revolting. On a bitterly cold day we find the heat of a campfire pleasing, and the offer of a bowl of ice cream something we can pass up. We feel as we do, not because of single genes for those reactions, but because many genes acting in concert constructed for us sensory organs to pick up information from our environment and a brain that makes those assessments.

Another result of processing can be a decision, a conscious or unconscious one, about how to respond. We huddle closer to the toasty fire. We decline the chilly ice cream.

It is the architecture and chemistry of a human brain that determines which social conditions a given brain finds satisfying, pleasurable, exciting, stimulating, cool, worth doing, worth working for. Such stimuli or conditions are said to be "reinforcing," and they drive our behavior. We respond to positive reinforcers (food, safe hiding place, a good-looking member of the opposite sex) and to negative reinforcers (pain, scolding, social isolation). Our genes guide the construction of brains, and then our brains respond positively to various stimuli and negatively to others.

If evolution produced a male tendency (inclination) for this and a female tendency (inclination) for that, we would find that the brains of males and females respond differently to the same stimulus context—in this case a choice to go to war or not—with males inclined in one direction, females inclined in another.

Inclinations and the Bell Curve

What is quite evident is that differences between men and women in the traits in question are not either/or. It's not that one gender has it while the other doesn't. Both tendencies—the thrill of bonding together to go “kick ass” and the capacity to take pleasure in social stability—are present in both men and women. After all, men who do live in communities with the children they have fathered would benefit by that community remaining secure and stable. And women, as I discuss at some length later, can be roused to fight in defense of their offspring or the community where they are raising their offspring. The question is whether men and women differ sufficiently *on average* in expressing these traits so that letting one or the other sex express its tendency unchecked leads to disastrous results.

Were we to measure the eye color of men and women, from extremely light blue to darkest blue, and plot the number of individuals having a given eye color on a graph, we would find that the curve (distribution) for men and the curve for women would overlap virtually perfectly. There is no significant difference between men and women in eye color.

But if we were to measure the amount of fat and glandular tissue lying between the nipple and the underlying breast muscle in adults, adjusting the measures to account for different levels of obesity, and plot those distributions, the curves would hardly overlap at all. Only a few men have a breast measurement that overlaps those women who develop small breasts. Most men would be completely excluded from overlap with the female curve.

A good way to think about differences between men and women in any trait—height, weight, upper body strength, ability to do math, facility with language, facility with solving spatial problems—is the bell curve. The graphed distribution of the measurements of many individuals having a given ability or trait, when plotted, takes the shape of a bell, with the measurements of a few

individuals on either extreme of the curve and the majority of people falling somewhere in the middle.

When no difference exists between two groups, such as men and women, and you place the curve of one group on top of the other, the curves overlap perfectly. If the frequency of occurrence of traits of individuals from the two groups is not the same—if for example, one group has individuals that have much higher scores than any individuals in the other group—the curves will not match. When you try to place one group's curve on top of the other, there will be an offset.

When we plot occurrence frequencies of different traits for men and women, the curves almost always overlap, sometimes a lot, sometimes very little. And that's the heart of the problem here. Just how much do inherited male and female tendencies for engaging in war or striving for social stability match up? If there is a difference, how great is it? And how can we measure such inclinations?

Trying to evaluate the degree of difference becomes particularly complicated because learning profoundly influences the ways humans express these two opposed tendencies. The relationship between learning and expression of the desire to go to war, or instead to make peace, is so complex, it's simply impossible to make direct measures of innate, biologically inherited differences. What we can do is consider approximations, which I do in several sections to follow (**Differences in Brain Structure, Differences in Brain Function, Studies on Infants and Cross-cultural Studies of Children, Women As Warriors, and Hidden Females**).

A warning is appropriate here, a reminder. Individual men and women are unique. Wonderfully unique. Each is a distinct, astounding combination of what members of various cultures **choose** to call male and female traits. How gender differences relate to culture and how personality traits are molded and modified by learning are subjects covered in such texts as *Cultural Anthropology* by Carol and Melvin Ember or the similarly titled one

by William Haviland. One fundamental and clear fact is that through the influence of learning, culture is a powerful determinant of what behavior for adults of the two sexes is considered normal and acceptable.

But culture is not all-powerful. One of the central goals of the Women's Liberation Movement was the struggle to let each person be whatever he or she wants to be—to free individuals from stereotyped expectations imposed by the cultural norms of a particular society that often don't suit the temperament or talents of a given man or woman. The goal was to give scope to the wealth of human individuality.

In *Women, Power, and the Biology of Peace*, however, I'm not focusing on unique individuals. I'm concerned with how statistically significant male/female differences in opposed inclinations relating to war working through large groups of individuals affect the shaping of our cultural lives.