

OUT OF THE TREES

The writer and critic Susan Sontag once suggested that science fiction is not really about science at all. Hardcore sci-fi author Philip K. Dick pointed to the roots of the genre in seventeenth-century travel and adventure stories. Our feeling is that Arthur C. Clarke was perhaps nearer the mark when he supposedly suggested that science fiction is really just about us and, more particularly, about our ideas about ourselves. Certainly one of the most influential sci-fi works, Gene Roddenberry's *Star Trek* series, is, just as its creator intended, part *Wagon Train* to the stars and part human morality tale.

At the heart of every *Star Trek* story lie deep and troubling questions about what it is to be human. In the original television series, this is often dramatized through interactions between the *Enterprise* crew members and various alien life forms they meet as they “boldly

go” to the unknown reaches of the universe. Episodes also show struggles between the all-too-human Captain James Kirk—impulsive, emotional, and driven as much by passion and hope as by anything else—and his coldly logical, emotionally immune first officer, Spock.

Of course, many of the story lines are resolved by the two characters working together—the combination of emotion, instinct, and logic—but the tension between the two is always at the heart of the story. In episode after episode, Spock’s eyebrows arch at an improbable angle to underline his disapproval of Kirk and company’s behavior. Even to a half-Vulcan, humans are disappointingly “illogical.”

Many economists and other students of human behavior share this disappointment. Indeed, perhaps the most important general scientific finding about human behavior of the last half century is how often and how blatantly we fail to live up to the standards of rationality set both by Spock and by classical economics. Whether you consider the conformity research of psychologists such as Stanley Milgram and Philip Zimbardo, inspired by the cruelties inflicted by humans on each other, or the behavioral economics pioneered by Daniel Kahnemann and popularized by Richard Thaler and Cass Sunstein in *Nudge*, the hard truth about humans is this: we are beset with emotions and cognitive biases, and much of the time we avoid thinking altogether. We are not the calculating, rational creatures that we’d like to imagine we are.

If we were, it would be so much easier to organize things for the common good. For one thing, we could ameliorate many of the problems of the modern world—obesity, smoking, alcohol abuse, sexually transmitted diseases—simply by providing individuals with

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the relevant information, much as politicians and health professionals suggest, trusting individuals to decide for themselves and behave accordingly. If only humans were that straightforward! But we're not. Actually—and happily, to our way of thinking—we're a lot more interesting than that. Our goal here is to show how the uniquely *social* nature of human evolution and behavior shapes the manner in which culture evolves among collections of individuals, particularly huge masses of individuals in modern societies.

PLAYBOY AND THE PLEISTOCENE

If you're still worried about being “disappointingly human,” perhaps you can blame evolution—something that's often represented narrowly as ancient biological selection that channeled behavior into optimal packages, genetically transmitted for thousands of generations without change. When Jerome Barkow, Leda Cosmides, and John Tooby published *The Adapted Mind* in 1992, evolutionary psychology went mainstream. The exciting idea was that our brains were hard-wired with behavioral tendencies that evolved on the savannas of Africa during the two million years of the Pleistocene, long after our hominin ancestors came down out of the trees and started wandering around on two legs. Certain behavioral regularities seemed to support this notion. People on a whole prefer savannas to every kind of environment but the one they were raised in. Women can remember the relationship among objects on a table better than men can—seemingly a holdover from their “gathering” past. Men are better at holding larger-scale geographic mental maps—a holdover from their “hunting” past.

What opened the imaginations of researchers and the public alike was the suggestion that these evolved tendencies, which were adapted for a landscape full of natural dangers, a hunting-and-gathering lifestyle, and sexual games that were played out in small groups, had stuck with us and were now running up against a very different environment. This seemed to imply that we are trapped in Pleistocene bodies in the middle of modern technology and facing a totally different set of social norms. Could this be true? Apparently a lot of researchers thought so, and they tried to explain many of our modern behaviors in terms of “misplaced” Pleistocene instincts—what Sir Thomas Browne was getting at in *Religio Medici* (1643) when he proclaimed, “there is all Africa and her prodigies in us.” So, for example, driving a Bentley or playing jazz became for some evolutionary psychologists a costly signaling strategy for males to attract females, much as a peacock’s tail does. Similarly, acquiring a life-long taste for a favorite food, such as Ding Dongs (Oprah) or fried peanut butter and banana sandwiches (Elvis), became a manifestation of our evolved sense of trusting wild foods that did not kill us.

Evolutionary psychology *is* all about food and sex—especially sex, with a full-blown branch of science now devoted to how our sexual attractions evolved. The early days of evolutionary sex research were rather hedonistic, exemplified by a study of *Playboy* centerfolds from the 1950s to the 1980s that suggested the presence of some strongly biologically rooted and thus immutable tendencies in what males find attractive in women’s bodies. In comparing waist-to-hip ratios in centerfold models over the decades, researchers found that it was constant at about 0.7. Why? Were hips that are one-third wider than waists indicative of youth and greater fertility?

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In the same study, roughly a hundred college males were shown a set of line drawings of female figures in one-piece bathing suits, in a range of different waist-to-hip ratios. The students preferred women with the same waist-to-hip ratio as in the centerfolds—0.7. Brain scans of young males taken while they looked at pictures of naked women demonstrated that this optimal waist-to-hip ratio activates neural reward centers in men—again, an “obvious” holdover from our Pleistocene life on the savanna.

The 1993 *Playboy* study has been cited hundreds of times and has led to a cascade of academic research. For example, researchers have left *Playboy* on the table and headed for exotic dance clubs, where they’ve discovered that lap dancers make more tips when they are ovulating and therefore giving off more sexual signals. Other researchers are happy to go out to regular nightclubs—or, shall we say, “human sexual display grounds”—where dancing women compete for male attention, especially the attention of wealthy and healthy males.

These dance-club studies are an amusing niche, and the wider research into attractiveness has found some interesting regularities as well as exceptions. Among the main findings are that both men and women prefer facial symmetry, which again is rationalized as indicating reproductive health, even though a woman’s facial symmetry has not convincingly been linked empirically to the health of her baby. Another interesting result is the repeated demonstration that a woman prefers a more masculine face (more angular) when she is ovulating than she does during the rest of her monthly cycle. This is true for male voices, too. Women prefer a more masculine voice when ovulating and a higher, more “caring” male voice the rest of the time.

CHAPTER 1

Although studies show clear regularities in what modern people find attractive in each other, biology is far from the only factor involved in human mating behavior. A DNA study that tracked Y-chromosome lineages in Central Asia suggested that Genghis Khan was the male ancestor of about 8 percent of all current males in a large section of Asia. This sounds difficult to believe—that a man who died around eight hundred years ago could be responsible for that large a percentage of a huge population—but we *should* believe it. Although the Mongols were polygynous, and Genghis Kahn was a particular opportunist in this respect, his long-term reproductive success was not simply a result of how many children he himself had, but also of how successful his male children were at reproducing, and their male children after them. From all appearances, they were incredibly successful—a success brought about in no small part by the fact that they were direct descendants of Genghis Khan. Khan's offspring, and their offspring, and so on down the line must have been social magnets in terms of attracting mates.

Perhaps this sheds some further light on the attractiveness studies. How fixed *are* preferences, and how much are they subject to social and cultural influences? Would female features that appealed to Genghis Khan appeal to modern Western males? Probably not. Attractiveness changes with fashion—contrast the waiflike heroine look of the late 1990s with the plumpness of the Enlightenment and Romantic eras, when well-placed body fat was an attractive display of wealth. This is still true of developing world societies in which diet is not abundant: fatness and pear-shaped figures are seen as attractive.

In a study published in 1998, Douglas Yu and Glenn Shepard took the same line drawings used in the *Playboy* centerfold study,