**Thirst for Fairness May Have Helped Us Survive**

**By**[**NATALIE ANGIER**](http://topics.nytimes.com/top/reference/timestopics/people/a/natalie_angier/index.html?inline=nyt-per) **NYTimes, July 4, 2011**

Among the Ache hunter-gatherers in eastern Paraguay, healthy adults with no dependent offspring are expected to donate as much as 70 to 90 percent of the food they forage to the needier members of the group. And as those strapping suppliers themselves fall ill, give birth or grow old, they know they can count on the tribe to provide.

Among the !Kung bushmen of the Kalahari in Africa, a successful hunter who may be inclined to swagger is kept in check by his compatriots through a ritualized game called “insulting the meat.” You asked us out here to help you carry that pitiful carcass? What is it, some kind of rabbit?

Among the Hadza foragers of northern Tanzania, people confronted by a stingy food sharer do not simply accept what’s offered. They hold out their hand, according to Frank Marlowe, an anthropologist at Durham University in England, “encouraging the giver to keep giving until the giver finally draws the line.”

Among America’s top executives today, according to a [study](http://www.nytimes.com/2011/07/03/business/03pay.html) commissioned by The New York Times, the average annual salary is about $10 million and rising some 12 percent a year. At the same time, the rest of the tribe of the United States of America struggles with miserably high unemployment, stagnant wages and the worst economic crisis since [the Great Depression](http://topics.nytimes.com/top/reference/timestopics/subjects/g/great_depression_1930s/index.html?inline=nyt-classifier). Now, maybe the wealth gap is a temporary problem, and shiny new quarters will soon rain down on us all. But if you’re feeling tetchy and surly about the lavished haves when you have not a job, if you’re tempted to go out and insult a piece of corporate meat, researchers who study the nature and evolution of human social organization say they are hardly surprised.

Darwinian-minded analysts argue that Homo sapiens have an innate distaste for hierarchical extremes, the legacy of our long nomadic prehistory as tightly knit bands living by veldt-ready team-building rules: the belief in fairness and reciprocity, a capacity for empathy and impulse control, and a willingness to work cooperatively in ways that even our smartest primate kin cannot match. As Michael Tomasello of the Max Planck Institute for Evolutionary Anthropology has pointed out, you will never see two chimpanzees carrying a log together. The advent of agriculture and settled life may have thrown a few feudal monkeys and monarchs into the mix, but evolutionary theorists say our basic egalitarian leanings remain.

Studies have found that the thirst for fairness runs deep. As Ernst Fehr of the University of Zurich and his colleagues [reported in the journal Nature](http://www.ncbi.nlm.nih.gov/pubmed/18756249), by the age of 6 or 7, children are zealously devoted to the equitable partitioning of goods, and they will choose to punish those who try to grab more than their arithmetically proper share of Smarties and jelly beans even when that means the punishers must sacrifice their own portion of treats.

In follow-up research with older children and adolescents that has yet to be published, Dr. Fehr and his colleagues have found a more nuanced understanding of fairness, an acknowledgment that some degree of inequality can make sense: The kid who studies every night deserves a better grade than the slacker. Nevertheless, said Dr. Fehr, there are limits to teenage tolerance. “ ‘One for me, two for you’ may not be too bad,” Dr. Fehr said. “But ‘one for me, five for you’ would not be accepted.”

A sense of fairness is both cerebral and visceral, cortical and limbic. In the journal PLoS Biology, Katarina Gospic of the Karolinska Institute’s Osher Center in Stockholm and her colleagues [analyzed brain scans of 35 subjects as they played the famed Ultimatum game](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3086869/?tool=pubmed), in which participants bargain over how to divide up a fixed sum of money. Immediately upon hearing an opponent propose a split of 80 percent me, 20 percent you, scanned subjects showed a burst of activity in the amygdala, the ancient seat of outrage and aggression, followed by the arousal of higher cortical domains associated with introspection, conflict resolution and upholding rules; and 40 percent of the time they angrily rejected the deal as unfair.

That first swift limbic kick proved key. When given a mild anti-anxiety drug that suppressed the amygdala response, subjects still said they viewed an 80-20 split as unjust, but their willingness to reject it outright dropped in half. “This indicates that the act of treating people fairly and implementing justice in society has evolutionary roots,“ Dr. Gospic said. “It increases our survival.”

David Sloan Wilson, an evolutionary theorist at the State University of New York at Binghamton, sees the onset of humanity’s cooperative, fair-and-square spirit as one of the major transitions in the history of life on earth, moments when individual organisms or selection units band together and stake their future fitness on each other. A larger bacterial cell engulfs a smaller bacterial cell to form the first complex eukaryotic cell. Single cells merge into multicellular organisms of specialized parts. Ants and bees become hive-minded superorganisms and push all other insects aside.

“A major transition occurs when you have mechanisms for suppressing fitness differences and establishing equality within groups, so that it is no longer possible to succeed at the expense of your group,” Dr. Wilson said. “It’s a rare event, and it’s hard to get started, but when it does you can quickly dominate the earth.” Human evolution, he said, “clearly falls into this paradigm.”

Our rise to global dominance began, paradoxically enough, when we set rigid dominance hierarchies aside. “In a typical primate group, the toughest individuals can have their way and dominate everybody else in the group,” said Dr. Wilson. “Chimps are very smart, but their intelligence is predicated on distrust.”

Our ancestors had to learn to trust their neighbors, and the seeds of our mutuality can be seen in our simplest gestures, like the willingness to point out a hidden object to another, as even toddlers will do. Early humans also needed ways to control would-be bullies, and our exceptional pitching skills — which researchers speculate originally arose to help us ward off predators — probably helped. “We can throw much better than any other primate,” Dr. Wilson said, “and once we could throw things at a distance, all of a sudden the alpha male is vulnerable to being dispatched with stones. Stoning might have been one of our first adaptations.”

Low hierarchy does not mean no hierarchy. Through ethnographic and cross-cultural studies, researchers have concluded that the basic template for human social groups is moderately but not unerringly egalitarian. They have found gradients of wealth and power among even the most nomadic groups, but such gradients tend to be mild. In [a recent analysis of five hunter-gatherer populations](http://www.ncbi.nlm.nih.gov/pubmed/21151711), Eric Aiden Smith of the University of Washington and his colleagues found the average degree of income equality to be roughly half that seen in the United States, and close to the wealth distribution of Denmark.

Interestingly, [another recent study](http://webcache.googleusercontent.com/search?q=cache:1fGtx9Tc_nYJ:duke.edu/%CB%9Cdandan/Papers/BuildingBetterAmerica.pdf+shelly+kagan+on+norton+and+ariely&hl=en&gl=us) found that when Americans were given the chance to construct their version of the optimal wealth gradient for America, both Republicans and Democrats came up with a chart that looked like Sweden’s. There’s no need to insult the meat in the land of lutefisk.