



Woodrow Wilson
International
Center
for Scholars

Environmental Change and Security Program

Sex and War: How Biology Explains War and Offers a Path to Peace (Book Discussion)

Wednesday, February 11, 2009

Woodrow Wilson International Center for Scholars

Edited Transcript—Malcolm Potts

Well, thank you very much. I look forward to the opportunity to try and look at warfare and terrorism in some new ways. I'm especially looking forward to the discussion, as Geoff just mentioned.

I still choke up when I look at this picture. When I was working in Liberia a nurse told me she'd been dressing the wounds of a girl whose hands had been chopped off with a machete, and innocently the girl asked, "Nurse, will my hands grow again?" Liberia is the wettest part of West Africa and everything re-grows except, unfortunately, human hands.

I was a child in World War II. I can remember the noise of B1 buzz bombs, and I recall seeing the sky filled with squadrons of American and British bombers going over to attack Germany. These were very brave men. They had an appalling mortality. I still respect to them. Some of them attended the church my parents went to.

As a physician, working internationally since the 1960s, I've been on the edge of a number of conflicts from Gaza and Afghanistan. I was in Phnom Penh during the siege. So I ask myself, "Why do human beings systematically and deliberately kill our own species?" As a biologist, I know this is a very unusual behavior. Stags and bull elephants sometimes kill one another fighting over females but it's really only chimpanzees and human beings and possibly hyenas and wolves where you have teams of adult animals that deliberately set out to enlarge their territories by systematically killing other members of their own species.

When I was a student at Cambridge I had the same tutor as Jane Goodall, and that was a time when the standard social science models dominated our thinking. Human beings, it was asserted, are a blank sheet who need somehow or other to be taught to be violent. Jane's research on chimpanzees changed that view. Chimpanzees are highly social animals. They are stubbornly territorial. And wherever primatologists have studied them for some time Pan



environmental change & security program



troglodytes, the species that Jane studies, sooner or later have been seen, adult males, small group, to leave the territory in which they are living, change their behavior, become very cautious and alert, to go in a stealthy manner into a neighboring territory, and if they find an isolated individual belonging to another troupe they attack that individual in the most brutal manner imaginable, tearing off strips of flesh with their teeth, twisting limbs out of their sockets, stamping on them and usually the attacked individual dies within a day or two of shock and blood loss.

Up to one third of chimpanzees are killed by other chimpanzees. Such raids enable victorious animals to extend their territory. This was a territory of a group of chimps that Jane studied before they started these raids, and they got a larger territory by killing their neighbors. The larger territory means more resources, more fruiting trees, more females can come in, and ultimately the successful warriors leave more of their genes in the next generation because they father more children, which is the ultimate test of Darwinian evolution.

Tomorrow -- tomorrow is the 200th anniversary of Charles Darwin's birth and 150th of the publication of the *Origin of Species*. Darwin understood that males and females have different reproductive agenda. Generally monogamous animals, such as penguins, the two sexes are the same size and indistinguishable. Among polygamists or promiscuous animals, where the males compete for females, males are bigger than females. We are such a sexually dimorphic species, and men and women have different reproductive behaviors.

It makes reproductive sense for males to take -- for men to take more risks than women. If I show you the statistics that young men break their long bones more often than young women you might argue, well, perhaps this is a cultural thing. Perhaps parents don't give their daughter's mountain bikes for their birthdays, but if I show you that male chimpanzees fall out of trees more often than female chimps perhaps you'll see that, at least in part, this is an inherited behavior.

This morning's *Washington Post* picked up on this theme. It's not a silly speculation. There is data to show that men who are exposed to high levels of testosterone in utero in certain financial posts actually earn more money because they take more risks than men that were exposed to lower testosterone levels.

In 1996 Richard Rangan and a colleague who'd worked with Jane Goodall described team



environmental change & security program



aggression in chimpanzees in a book called *Demonic Males*. In *Sex and War*, Thomas Hayden and I take off where Richard stopped. We find an unbroken tale of violence and same-species killing in the fossil record in archaeology, anthropology and written history. After writing *Sex and War* I have concluded that the ultimate weapon of mass destruction and perhaps of economic destruction is the testosterone molecule.

This Paleolithic cave painting from tens of thousands of years ago shows some warriors setting out to attack their neighbors. The only intact corpse which we have from the Neolithic and this is 5,300 year old man that came out of the melting glaciers in the Alps, he had an arrow in his back and three different human blood groups on his tunic.

The Highlander population of New Guinea, who lived a Stone Age way of life until the first contact with Europeans in the 1920s; when their life histories have been reconstructed, then, like chimpanzees 20 to 30 percent of adults are killed in raids and wars. It's the same among the Yanomamo in South America, and a mind-boggling four out of ten adults have taken part in killing another human being.

In 1987, some anthropologists and sociologists made a statement at UNESCO that it is scientifically incorrect to say we've inherited a tendency to make war from our animal ancestors. I think that that is wrong. Evolutionary psychology posits that the human brain has inherited predispositions or mental frameworks, which evolved because they helped us to adapt to find food, select mates, avoid danger, and compete for resources in a hostile world. I suggest there is strong evidence of a genetic tendency for men in the prime of life to attack and kill their neighbors. But such predispositions are extraordinarily flexible, and I'm not trying to suggest that we are preordained to go out and kill other people because nature as well as nurture or nurture as well as nature is highly influential. So I'm not maintaining that men have inherited a predisposition. I'm maintaining that they've inherited a predisposition for team aggression, but I also recognize and I celebrate the role of culture. If chimpanzees were literate I suggest they would identify with Shakespeare's words: "We few, we happy few, we band of brothers."

In World War II, William Manchester, the journalist, described his life as a U.S. Marine fighting in the Pacific. Like chimps and our hominid and human ancestors, Manchester tells us that men who are under fire in combat do not fight for flag, country, for the Marine Corps or glory or any other abstraction. They fight for one another. Even terrorists show this affinity. The Al Qaeda troupe who attacked America on 9/11, like a raiding band of chimps



environmental change & security program



Woodrow Wilson
International
Center
for Scholars

Environmental Change and Security Program

or New Guinea Highlanders, contained two brothers.

Glenn Gray [spelled phonetically] received his Ph.D. in philosophy from Princeton on the same day that he got his draft papers in World War II, and he fought in Europe. And he captures the intense loyalty -- I pressed the wrong -- of warriors who would, you know, are loyal to each other without thought of personal loss.

The reward of writing a book is that it helps you define new questions. As I read words like these I realize more and more that if we are a very social animal and indeed we are, and if we evolved to systematically and deliberately kill our neighbors, then we must also have evolved a mechanism to dehumanize or de-chimpanzee-ize those that are about us. As the famous Stanford prisoner experiment demonstrated and as Abu Ghraib confirmed the nicest university students and the best trained soldiers in the world can dehumanize an out group with the greatest of ease.

None of us in this room would be here if we had not had ancestors who were successful at killing their neighbors. Most of us even had parents or grandparents who were in the Armed Forces. My brother fought in Korea. My father was the crew of an airship in 1918, an improbable but at the time rather frightening vehicle. My wife's uncle was the first American Ace in World War I.

I suggest that as we think about confronting warfare and terrorism, and as in medicine the correct diagnosis is imperative. Once we recognize our violent origins then we need to ask not why do wars break out, but why does peace break out? We may have a predisposition to be warriors but we're not preordained to be warriors. Civilization at its best and the forces of modern culture can overcome our natural warrior tendencies. Today it's totally unthinkable that Britain would go to war with Germany except on the soccer field. In fact, one of the big surprises of writing this book was that the 20th century, judged on the basis of same species killing per thousand of the population per generation may have been the most peaceful in human history.

When I was writing this book I would show something to my wife I'd written about team aggression in human beings and Martha would say, "That's not what human beings do. That's what men do."

Team aggression, I suggest, benefited successful warrior males but it never benefited



environmental change & security program



females. Team aggression does not produce more fruit in the forest for chimpanzees. It simply redistributes it between competing male territories.

Women will fight very courageously when they or their children are threatened, but in the whole of recorded history I cannot find a single example of women banding together spontaneously and then going out to attack a neighboring group. In the 19th century, the West African kings of Tahoma had a female army and their fighting qualities are well attested by the French Foreign Legion, who were their enemy, but they were basically excess concubines and they were literally whipped into battle. Some individual suicide bombers have been women, but usually from families who had a loved one killed by the group being attacked. And those who manipulate terrorists sometimes recognize that you can get a woman through a tight security cordon easier than a man.

The takeaway message for those of us who want to live in a more peaceful world, I suggest, is that anything that contributes to the autonomy of women and gives them a role in civil society is likely to reduce international and domestic conflict, because team aggression is primarily driven by males in the 15 to 29-year-old age group as, for example, in El Salvador in the 1980s. This is the group that's most likely to engage in wars and to generate terrorists. Compare this with a country such as Sweden, which is much more -- less likely to be involved in violent conflicts and has the sort of older men and women to dilute these more violent volatile young men.

It follows that giving freedom to women to decide if and when to have a child not only builds female autonomy, reduces infant and maternal mortality, accelerates economic growth but contributes to peace in a very real way. It reduces the overall competition for resources and it changes the population structure in this kind of age pyramid.

The 9/11 commission drew attention to the relationship between rapid population growth, unemployment, and terrorism. It describes a steadily increasing population of young men without any reasonable expectation of suitable or steady employment, is a sure prescription for social turbulence.

Look at these countries. By 2025, which isn't all that far away, there'll be 25 million men aged 15 to 29 in Pakistan. The total population of Pakistan in 1949 at the partition was 36 million. The Gaza strip will have over twice as many men and they will all be unemployed, in my experience. Yemen will continue to be a failed state and Iraq may go in the same



environmental change & security program



direction.

But what about the last country, the Islamic Republic of Iran? I worked in Iran a lot under the old Shah, and I went back more recently. Family size in Iran plummeted from an average of five and a half to two children in 15 years, as rapidly as China but without a one child policy. The Holy Koran and the sayings of the Holy Prophet endorsed the use of *asol* [spelled phonetically], the Arabic word for male withdrawal. Iran built its own contraceptive factories, and every one marrying in Iran is required to go to lectures on contraception, which might be quite a good idea in this country. There are now more women in Tehran University than men, and I forecast in a generation's time Iran will be more peaceful and stable than Pakistan, Iraq, or Afghanistan.

Iran, I think, demonstrates the remarkable power of making voluntary contraception easily accessible. There is a large, well documented need for family planning. That is, women who say they don't want another child immediately or they never want to have another child.

I suggest that family size will fall anywhere and everywhere when we do two things: First, we remove the unnecessary, non-evidence based barriers to modern contraception, which so often exist. And second, we correct misinformation about contraception, which are very widespread. Many women think taking the pill is more dangerous than another pregnancy.

Perhaps family size wouldn't fall as rapidly in Afghanistan as it did in Iran, but I think it will always fall and that access to family planning not only directly benefits women and their families, but it's a wanted, achievable policy that can make the world a more peerful, a more peaceful place.

Sex and war are linked by evolution. Modern medicine has opened the door to a more peaceful world, and let us go through it, and if I can find my last slide -- It's rather a nice one that accompanied an op-ed I wrote or my wife and I wrote. I'll leave it on the screen. The pill is mightier than the sword. Thank you.



environmental change & security program