**Camilla Power is an anthropologist and activist. Her research focuses on how we became human; how we evolved language, ritual, and the rule of law; what was women's role in the origins of human culture? Are there any truly gender egalitarian societies on earth?**

**The revolution which made us human**

**Many people say 'Revolution? It can't work; it's against human nature'. But the recent science of human evolution and the evidence of archaeology shows us that everything distinctively human about our nature – language, laughter, art, ritual, song, dance, morality – was born in a social and sexual revolution in Africa over 100,000 years ago. How did that revolution work and what was women's role? This talk discusses monkeys and apes, our evolving human ancestors, the archaeology of the first modern humans in Africa and modern-day hunter-gatherer gender equality.**

# The revolution which made us human

**by Camilla Power**

It has often been said that no revolution can change human nature. This talk argues that, on the contrary, everything distinctively human about our nature emerged as the result of a social, sexual, political and cognitive revolution, known to archaeologists as the Human Revolution. In these turbulent times, what can the study of our revolutionary origins tell us about our present and possible future? Among all animals, only we humans have language, art, religion, symbolic culture. We possess these levels of organisation and awareness thanks to the way our unique species emerged in the evolutionary past.

What kinds of evidence can tell us about the human revolution? First, the evidence left us by evolution in the shape of our bodies. Second, archaeological evidence left by our ancestors. Third, we can learn from the lives – especially sex lives – of people who until recent times have been living in ways that resemble our hunting and gathering past.

In prehistory, we cannot talk about a class struggle. Nevertheless, revolution came about through struggle in solidarity, raising human consciousness in resistance to exploitation. The form of exploitation, in terms of evolution of human ancestors, was between the sexes. Among our great ape relatives, the mother alone does all the work of raising young – a huge effort. An orang utan mother, for instance, may raise one child in seven years. Male great apes are the 'leisured sex', and once upon a time, our ancestors were like them.

The most basic and material problem in human evolution is how mothers managed to meet the costs of their increasingly large-brained babies. Since the era of our bipedal ape-like ancestors – australopithecines – over 3 million years

ago, our brains have more than tripled in size. Because brain tissue is very expensive, needing ten times the average of the body's metabolic costs, this amounts to a large increase in energy required for reproduction, falling in the first place on mothers of those large-brained offspring. In an evolutionary perspective, this required female social and strategic solutions.

The first major increase of reproductive costs comes around 2 million years ago with the emergence of genus *Homo*, when both body size and brain size increase placed extra demands on mothers. Brain size doubled with *H. erectus*. To meet these costs, mothers needed help from others. Our ancestors became babysitting apes. The first reliable source of childcare support was mother's mother. Given older female support, mothers were able to give birth more frequently – compared to a great ape baseline – producing older sibling helpers. Evolutionary anthropology today focuses on the 'grandmother hypothesis' and the evolution of life history patterns such as menopause, adolescence and childhood, with cooperative childcare as the basis for the evolution of our emotional and cognitive capacities.

While female kin in human evolution are expected to show solidarity and cooperate, Darwinian theory of sexual selection and sexual conflict argues that males and females will have different priorities. Once a female partner is pregnant or breast-feeding, a male could gain more fitness – chances for reproduction – by finding new mating opportunities instead of investing in current offspring. How then did heavily burdened mothers get males to help?

Today, women's bodies offer the evidence of evolution. As far as our bodies go, we may be 99% similar to chimpanzees in terms of shared DNA. But there are remarkable differences. If you go to the zoo to watch chimps interact you will very soon see obvious differences in sex behaviour. In the few days before, and just when, she is fertile, a female chimp sports a pink sexual swelling the size of a grapefruit. During this period of oestrus, she is busy having sex with all the adult males of her group. And this takes place openly in front of other group members.

Women, by contrast, show no such display marking out the most fertile days of our cycles. We can have sex – or not – pretty much any time. Although it varies between societies, every society on earth has some standard of modesty or discretion surrounding sex, which clearly does not apply to chimps or bonobos.

These features of sexual behaviour can be linked to the needs of mothers for help with their large-brained babies. Once a chimp gets pregnant, the adult males of her troop – any of whom might be possible fathers – simply leave her to get on with the job of childrearing on her own. But a human mother expects others, including men, to help with the energetic burden. The reason why our female ancestors evolved to show no sign of ovulation is that it kept males guessing about when a female might be fertile – and so kept males hanging around, possibly doing something useful. Sex which was not necessarily fertile or reproductive could be used to reward particularly helpful males.

But what about synchrony of menstrual cycles, which most women experience at some time? Is there an evolutionary reason for that? If you observe your cycle entraining with another woman's, the underlying mechanism of the process is that your time of ovulation is coming closer to hers. Now think back to the situation of our evolving ancestors, and take the viewpoint of a male who is trying to find fertile females to get his genes into the next generation. If the females around him are synching their cycles, he will have a hard time paying attention to more than one of them. While he is busy with one, other males are going to be trying to get

friendly with the others. This could be very useful for the females if they need more than a single male to help with protecting the group and getting some high-energy foods for the kids.

Females of many mammal species show the capacity to synchronise their cycles, including several monkey species. And when they synchronise, more males come into their troupes. If females want the males, they use synchrony; if they don't (maybe because there isn't so much food around), they become asynchronous, and one male can take over.

In the case of human evolution, synchrony seems to have been very important for us. We can tell because not only is the mean length of a menstrual cycle the same as the lunar cycle at 29.5 days, but also the mean length of our pregnancy is a precise multiple of nine lunar cycles. Evolution has inscribed the lunar rhythm into women's bodies. We are designed for lunar periodic synchrony. The limestone plaquette from Lalinde in the Dordogne, carved 13,000 years ago, celebrates this.

Of course, once a woman is pregnant, gives birth and starts nursing, her male partner/s might be inclined to look elsewhere. This was a major problem for our foremothers in evolution. Females had to breastfeed for years after birth; males would be able to tell which females were fertile, not by signs of ovulation – these had been phased out – but by menstruation. A menstruating female is not fertile immediately, but in a week or two she could be. Therefore, evolving human males would have been eager to bond with any menstrual female, bringing her the Palaeolithic equivalent of flowers and chocolates – more likely to be choice cuts of game meat.

But the females who really needed the extra energy were the nursing mothers. Faced with competition from fertile menstrual females, they had two choices: either, hide the fact another female was menstruating from the males; or, use her attractions to encourage the males to extra efforts. This second strategy was the revolutionary one, which gave us the first cosmetics – the earliest kinds of body art and symbolism. All women, whether they were pregnant, nursing or fertile, daubed themselves with blood red colours, using ochre and haematite pigments ground up and mixed with fats as sexual warpaint. In this display, the message of the women – as a group – to the men was: you're not going to separate us; you're not going to pick and choose; you're going to hunt for all of us. And NO sex till you do. Red ochre became the red flag of women's sex strike, the banner of the human revolution.

By acting in solidarity, women used sexual display to organise the world's first economy. Hiding would have got little extra out of men. Collective cosmetic display got men to go hunting, providing energy and vital nutrients for large-brained offspring. As a result, humans thrived, spreading all over the planet.

We are an extraordinarily young species, emerging from Africa just 150,000 years ago. The 'human revolution' broke out initially in sub-Saharan Africa. Across southern Africa by 120,000 years ago, archaeologists find widespread evidence for a cosmetics industry of red ochre and haematite. This includes bright red crayons, shaped like lipsticks, used in the first body art and colour design over 100,000 years ago. One of the best known sites is Blombos Cave, on the shores of South Africa. Here, among numerous beautifully crafted ochre crayons, archaeologists have found engraved haematite blocks, one of which has been carefully decorated with a cross-hatch pattern, showing beyond reasonable doubt that its makers were true artists. Dated to 76,000 years ago, this particular item made newspaper

headlines across the world in 2002 – proving that art is at least twice as old in Africa as any known in Europe.

Wherever these first humans went, first into the Middle East, then moving round the Indian Ocean to Australia, finally going north into Eurasia and the Americas, they carried red ochre cosmetics with them. We can track and date their movements. There is even some evidence that Neanderthals picked up and copied our cosmetics when we came into contact in Ice Age Europe some 40,000 years ago.

Among African hunters and gatherers, cosmetics have cosmic significance. When a young woman begins menstruating for the very first time, her older sisters and other kinswomen celebrate the occasion by bonding tightly with her, not letting her from their sight. Her menstruation may be marked by red ochre. The girl stays in a hut while all the women dance outside. The much-desired maiden is declared off-limits. Her body is ‘sacred’ – no man may come close. The sisters accentuate their bond with the girl by constructing her blood as enveloping them, too. The blood refuses to be confined, welling up like a flood, casting its spell everywhere. In Africa, Australia, Eurasia and the Americas, women traditionally wore blood-red cosmetics to make just this point, asserting their bodies to be ‘blessed by the moon’.

Moon-scheduled revolution, for Africa’s surviving hunting-and-gathering peoples, is not an event dimly remembered in ancient myths and traditions. Rather, it is a task still to be accomplished each month. As the new moon makes its appearance in the sky, people form a circle as brothers and sisters, singing and clapping hands as if a baby had been born. This is their revolution, and it happens each month. How is it that a revolution can be constructed as a repeatable event? The secret is to know not only how to seize power, but to know how to let go, how to play.

Each month, at new moon, synchronised insurrection overthrows the rule of men. Women declare themselves on strike, extending their action until the men have got the message and understood. No individual can be exempt from the action: fertile sex is impermissible during this time. But why stay on strike forever? Why cling to power once victory has been achieved? At the approach of full moon, women begin anticipating an all-night celebration. A fortnight earlier, they had sent husbands away. Now, utilising the moon’s light, these hunters should be closing in for the kill. On the night of the full moon, they should ideally be returning home – laden with freshly-killed game. According to a popular Kalahari Bushman saying, Women like meat! They like hunters’ bodies, symbolically identified with the fatty flesh which good hunters bring. Where there is meat in abundance, women will welcome the men. If this were a permanent surrender, they might have doubts. If the ‘enemy’ could regain sexual dominance, it would be unwise to surrender at all. But the women know that this is not so. They won the revolution once – they know they can win it again. Men’s victory will be as transient as women’s, each camp yielding to the other in turn. As women choose honeymoon, they relax in certain knowledge of what the future will bring. Next dark moon, sure as our blood flows – we’ll be out on that picket line again!