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This has been the year the human genome was announced, all but a few last details. As an achievement, it ranks with putting a man on the moon. Both are triumphs of the human spirit, like climbing Everest ("Because it is there") but more so because each is the cooperative culmination of millions of person hours of highly skilled work, brilliantly conceived, intricately organised, drawing upon the accumulated science of centuries. The human genome is a mountain climbed, not by a couple of individuals but by the human intellect itself. We can all be proud of our species as it closes in on this summit of self-knowledge.

Such projects are expensive, but worth it. They are examples of what we do when we live, rather than just work to stay alive. But they also contribute, in no mean strength, to the utilitarian business of staying alive.

The medical benefits of the genome project will become increasingly evident during our (consequently extended) lifetimes. Over the half century since Watson and Crick's discovery, the number of DNA codons that can be sequenced per unit-cost (allowing for inflation) has increased exponentially, with a doubling time of about 27 months. If the trend continues, a doctor in 2050 will be able to call up, for the price of a chest X-ray, a genome printout for each individual patient. She will then prescribe not an average dose but the tailor-made remedy to fit each individual's genes. Enough of practicalities: as with the moon shots, the lasting benefits of the human genome project will flow not from reaching the narrow goal itself but from learning how to reach it. The new skills will be turned towards other goals.

The chimpanzee genome will be sequenced in a fraction of the time taken for the human genome, which it closely resembles. The distinguished molecular biologist Sydney Brenner has made the startling suggestion that a sophisticated comparison of the two might then enable us to reconstruct the genome of the common ancestor that we share, the so-called missing link, which lived in Africa about six million years ago.

Extrapolating Brenner's logic, our computers should then be able to split the difference between the missing link and ourselves, approximating the genome of an Australopithecine such as "Lucy", the famous three-million-year-old ape woman fossilised in the Ethiopian highlands.

Such speculation is for the future, but it is a future measured in decades, not centuries. During the same decades, embryological science and cloning technology will also be advancing, and it is not excessive to speculate that, by 2050, a reconstructed Australopithecine genome might be used to bring into the world a living, breathing Lucy! And, by the same methods, a living Turkana Boy (*Homo erectus*, roughly intermediate between Lucy and us) and similar resurrections of the bridges that span the chimpanzee line of descent.

Many of us will be horrified, rather than excited, by such a suggestion. But we are not living in 2050. Things will seem different then. Though free from irrational fears of "playing God," I admit to misgivings, which stem from compassion for the Lucy herself. It seems all too likely that she will be victimised and exploited as a tabloid freak show. On the other hand, I see positive ethical benefits flowing from the experiment, in the form of changes to our own attitudes. The same benefits in moral education would be delivered by a successful hybridisation of a human and a chimpanzee. Or from the discovery of a relict population of Lucys, surviving somewhere in the African bush. But cloning a new Lucy is more practicable, and it would shatter our speciesist illusions very effectively.

People who cheerfully eat cows object violently to abortion. Not even the most vehement "pro-lifer" would claim that a human foetus feels pain, or distress, or fear, more than an adult cow. The double standard, therefore, stems from an absolutist regard for the humanity of the foetus. Even if we don't eat chimpanzees (and they are eaten in Africa, as bushmeat) we do treat them in otherwise inhuman ways. We incarcerate them for life without trial (in zoos). If they become surplus to requirements, or grow old and miserable, we call the vet to put them down. I am not objecting to

these practices, simply calling attention to the double standard. Much as I'd like the vet to put me down when I'm past it, he'd be tried for murder because I'm human.

Human means special, unique, sacred, of infinite worth, to be venerated as the possessor of "human dignity." Animal means to be treated kindly but put to human use, painlessly destroyed when usefulness is past, killed for sport, or as a pest. A rogue lion that kills people will be shot, not in revenge, not as a punishment, not as a deterrent to other lions, not to satisfy the relatives of the victim, but simply to get it out of the way: not punishment, but pest control. A rogue human who kills people will be given a fair trial, and if sentenced will probably not be killed. If he is killed, it will be with grisly ceremony, after appeals, and in the face of massive, principled objection. Of all the justifications offered for capital punishment, one that will never be heard is pest control. It has no place in penal theory. Humans, to the absolutist mind, are forever divided from "animals."

A real, live Lucy would drive a coach and horses through this double standard. Of course we already know that we are cousins of chimpanzees. But the intermediates are all conveniently dead, so it is easy to forget. If we succeed in cloning a Lucy and a series of graded, mutually fertile intermediates linking us to chimpanzees, what would the pro-"lifers" do then, poor things?

At the height of the apartheid idiocy, the South Africans set up courts to determine whether individuals should "pass for white." These obscene courts sometimes separated brothers, where one happened to be darker than the other. The pro-"lifers" would either have to go down that preposterous route, or embrace chimpanzees as human. And then, of course, we would be on the slippery slope, via gorillas, orang-utans, monkeys and so on, to the entire animal kingdom. This will not worry those of us who were never absolutists in the first place: who care more for the individual's capacity to suffer than for his divine human status. But it shows absolutism up as incoherent.

The silly thing is that it shouldn't be necessary to clone a live Lucy. Anyone with an intelligent imagination should get the point from the undeniable fact that we animals are all cousins: it is the merest accident that the evolutionary intermediates happen to be extinct. But the absolutist mind - one of the great scourges of humanity - has never been richly endowed with either intelligence or imagination. Unfortunately, the absolutist mind needs to see the word made flesh. Come back Lucy!

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