World's best kept secret in cloning research

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The world's first human clone of an adult has now been made, by an American biotechnology company in Massachusetts, Advanced Cell Technology. They took a cell from Dr Jose Cibelli, a research scientist and combined it with a cows egg from which the genes had already been removed. (News November 1998)

The genes activated and the egg began to divide in the normal way up to the 32 cell stage at which it was destroyed. If the clone had been allowed to continue beyond implantation it would have developed as Dr Cibelli's identical twin. Technically 1% of the human clone genes would have belonged to the cow - the mitochondria genes. Mitochondria are power generators in the cytoplasm of the cell. They grow and divide inside cells and are passed on from one generation to another. They are present in sperm and eggs. Judging by the successful growth of the combined human-cow clone creation it appears that cow mitochondria may well be compatible with human embryonic development.

However the biggest piece of news is not what they did in human cloning - sensational enough - but the fact that they kept cloning secret for three years after doing it, and presumably they were trying to do it at least a couple of years before that.

Let's wind back the clock: these scientists had already carried out successful human nuclear transfer into an unfertilised egg before Dolly the sheep clone had been made. In other words, the huge media rush about Dolly came only because the Dolly scientists in Edinburgh came clean sooner. But even they omitted to tell us anything until Dolly was seven months old, well over a year after the cloning technique was successfully carried out and a good two to three years perhaps after they began their secretive work.

The lesson is this: today's headlines on human cloning tell us history. The big question is what's going on now? What experiments were completed in 1996, 1997 and 1998 that we won't

know about until 1999 to 2001 - if then?

Elsewhere on this site I describe my own conversations with a British scientist in the 1980s who was attempting then to clone human embryos - with some success. His purpose he said was to freeze clones to be used later for spare parts. Defrost a twin, implant it into a surrogate of a humanised ape and cull it for spares. Over a decade later he is still lying very low about his work.

There could be one benefit of the human to cows egg transfers. Some people are very uneasy about creating a human embryo and then dismembering it, however early the stage, to obtain embryonic stem cells from which useful tissues might be grown. they might feel more comfortable with a hybrid solution, if it were shown that the embryonic cow-human stem cells were viable as tissue producers but not capable of becoming a baby.

However there are many other ethical issues. For a start it raises the biggest question of all: how many human genes does a cow or monkey have to gain before we give it human rights? In these human-cow clones one imagines every court in the world would agree that the child born would be capable of being prosecuted for murder, even though it would technically be 1% cow.

But what about other proportions? Humonkeys are within our capability and have been for several years. Scientists have already made geep (combined sheep and goat), and camas (combined camels and lamas) simply by rolling two balls of cells together after fertilisation. Monkeys and humans have 97% of genes in common so if the right 1.6% were transferred from a human to a monkey we could land up with a monkey more human than animal.

These questions will need facing sooner than you may think. And for the theologians another question: how many human genes does an animal have to have to need salvation? Christians, Muslims and Jews believe that humans are made in the image of God. Human life is a mystery. What does that mean in the light of these extraordinary developments?