

The Human Fertilisation and Embryology Bill

December 2007

INTRODUCTION

The Government's Human Fertilisation and Embryology Bill liberalises existing law covering the use of embryos. It applies to technologies ranging from IVF to animal-human cloning. The Bill raises the most fundamental of questions: what does it mean to be human and when does human life begin?

Top scientist leaves embryo research for 'better method'

The cloning scientist behind Dolly the sheep, Prof. Ian Wilmut, has left embryonic stem cell research because a new technique using adult stem cells is showing much more potential.

The breakthrough by Japanese and American researchers uses human skin to develop stem cells.

Tests have shown that the stem cells could

develop into any of the 220 specialised cells and tissues of the body, such as mature nerve cells for mending spinal-cord injuries, and may be just as good as those derived from early embryos.

This reinforces the case against the use of human embryos for stem cell research which has so far failed to develop any clinical treatments.

Bill legislates for designer babies

The Bill opens the way for wider use of embryo screening techniques in various circumstances, including allowing so-called 'saviour siblings'.

The technique is called 'pre-implantation genetic diagnosis' (PGD). Some cells of an embryo created by IVF are tested for particular genetic traits, such as muscular dystrophy.

Currently, PGD is licensed on a case by case basis by the Human Fertilisation and Embryology Authority (HFEA). The Bill establishes a broad legislative framework to allow PGD to be used in a wide range of circumstances.

Since only those embryos which are free from any defect will be implanted, using PGD inevitably leads to most being destroyed. The destruction of embryos in

any circumstance cannot be justified.

Though it bans sex-selection for social reasons, the Bill permits much wider use of PGD to enable children to be born whose cells or tissue could be of medical use to their brother or sister. So-called 'saviour siblings' will be allowed for the treatment of "serious medical conditions", a concept which is not defined in the Bill. Phil Willis MP, Chairman of the Joint Committee on the draft Bill, has already suggested that this could include autism.¹

There are serious concerns that the failure to define which tissues may be used can allow the harvesting of organs from the child who was selected as an embryo.

Extending the law in this way turns children into commodities.



¹ *The Daily Telegraph*, 1 August 2007

The Bill and the abortion debate

The Human Fertilisation and Embryology Bill can be amended to change the law on abortion. It is thought both pro-life and pro-abortion politicians will table amendments.

The current law

In England, Scotland and Wales abortion is allowed up to 24 weeks of pregnancy. The consent of two doctors is required. Abortion up to birth is lawful when the mother's life is at risk, or where the unborn child has a serious handicap (however, 'serious handicap' has been taken to include an abnormality such as a cleft palate). Abortion is unlawful in Northern Ireland, except for when the mother's life is at risk.

Abortion numbers since 1967

There have been 6.7 million abortions in Great Britain since the law was introduced.¹ According to Government figures given in 2006, of the 5.3 million abortions to residents of England and Wales:

- 0.4% were because of risk to the mother's life.
- 1.3% were because of foetal handicap.²
- Over 98% were for social reasons.

One in five recorded pregnancies in England and Wales ends in abortion.³

Reducing the 24 week limit?

There is a compelling case for the 24-week abortion limit to be significantly reduced.

In certain hospitals with appropriate neonatal expertise

survival rates of 46% at 23 weeks and 82% at 24 weeks have been recorded.⁴ Pioneering neural research has called into question long-held assumptions about the foetus' lack of ability to feel pain. One world authority has argued convincingly that the foetus utilises unique neural structures which can process pain from 20 weeks or earlier.⁵ Embryos develop rapidly: by week 6 the heart is pumping and by week 9 the baby has begun to move. The latest '4D' ultrasound technology has clearly shown the obvious human characteristics of the foetus.

The consequences for women

Many women who have abortions later deeply regret doing so and experience psychological problems.

A recent medical study showed women who had undergone abortion facing twice the risk of mental health problems, three times the risk of major depressive illness and four times the risk of thinking about suicide as women who had carried their pregnancy to birth.⁶ For many the decision to have an abortion is made under pressure and with little time for careful thought. Those who pressurise women in this way

are morally responsible.

Christians holding to the Bible's teaching on the sanctity of life from conception oppose abortion and seek to raise awareness of what abortion really involves.

¹ Combined figures from *Abortion Statistics, England and Wales: 2006*, Department of Health, 2007, Table 1 'Legal abortions: resident status and purchaser, 1968 to 2006' and 'Abortions performed in Scotland 1968-2006', National Statistics release, ISD Scotland, May 2007

² House of Commons, Hansard, 8 November 2006, col.1792 wa

³ *Health Statistics Quarterly*, Office for National Statistics, no.34, 2007, page 63, Table 4.1. The Government does not collect statistics on the number of embryos destroyed at the age of a few days old by drugs such as the morning-after pill.

⁴ Memorandum 53, *Scientific Developments Relating to the Abortion Act 1967: Volume II Oral and Written Evidence*, House of Commons Science and Technology Committee, November 2007, Ev 244

⁵ Lowry, CL, Hardman, MP, Manning, N, and Anand, KJS, 'Neurodevelopmental Changes of Fetal Pain', *Seminars in Perinatology*, 31 (5), 2007, pages 275-282 and Prof. KJS Anand, Department of Pediatrics,

Arkansas Children's Hospital speaking on Channel 4 *Dispatches*, 'Abortion: What We Need to Know', 17 October 2007

⁶ Fergusson, D M, Horwood, L J and Ridder, E M, 'Abortion in young women and subsequent mental health', *Journal of Child Psychology and Psychiatry*, 47 (1), 2006, page 20



Government wants to let scientists grow animal-human embryos for research

The Government wants to permit the creation of embryos which are part-human and part-animal.

In what some have labelled 'in vitro bestiality', the Human Fertilisation and Embryology Bill opens the way for animal-human hybrid and chimera embryos to be produced for research purposes.

In doing so, the Government has bowed to pressure from scientists who want to use the technique to produce large numbers of embryonic stem cells for research.

Scientists want these embryonic stem cells because they claim they can develop treatments to cure a number of diseases and replace damaged tissue. However, after more than ten years of research no successful treatments have been developed. Meanwhile, the use of adult stem cells has produced significant benefits in patients.

Previously the Government had outlined in a white paper its intention for a general ban on animal-human combinations. But the Bill presented to Parliament opens up the possibility of a variety of unnatural animal-human embryos for research.

The form most sought by scientists is a cytoplasmic hybrid (cybrid). Cybrids are created by removing the nucleus from an animal egg cell and replacing it with a human nucleus. The resulting embryo will genetically have one human parent and one animal parent, with around 99% of the DNA coming from the human nucleus. A small amount of animal DNA will remain in the egg in the form of 'mitochondrial' DNA. In an egg mitochondria are contained outside the nucleus. The mitochondria carry a small amount of genetic

Some have labelled this as 'in vitro bestiality'

information. Their function is to produce energy so that the egg can develop.

The Government is also promoting the creation of chimeras and other forms of hybrids. Chimeras are created by bringing together a set of human cells with a set of animal cells during early stages of development. The resulting embryo will be a patchwork of human and animal. Hybrids are created by mixing human DNA with animal DNA, with the resulting embryo being a new part-human species.

By succumbing to the demands of scientists working with embryonic stem cells, the Government is blurring, legally and morally, what it means to be human. The distinction between human and animal, upon which human rights and human dignity depend, is being eroded. The very image of God in humanity is being denigrated through splicing it with genetic information from animals. Furthermore, these embryos will be destroyed on their fourteenth day of existence at the latest.

Even if the moral objections are left to one side, there are numerous scientific reasons for opposing the development of animal-human embryos. Such embryos are not likely to develop in the same way as human embryos, and so will yield little knowledge of the process by which human stem cells develop.

CHIMERA



'Geep' - a goat/sheep chimera

HYBRID



'Zorse' - a zebra/horse hybrid

Why do scientists want to create animal-human embryos?

Scientists want to mix human nuclei with animal eggs because there are not enough human eggs to produce the volume of stem cells they want for research.

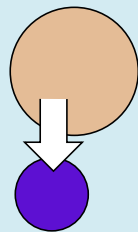
They want the stem cells because they claim it should be possible to turn stem cells into a 'repair kit' for the body, healing damaged tissue and disease.

But after more than a decade of work, no successful treatments have been developed from embryonic stem cell research. Meanwhile, the use of adult stem cells has produced significant benefits in patients.¹

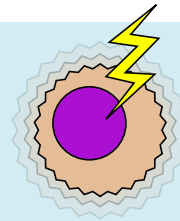
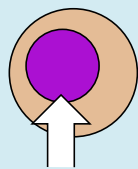
¹ <http://www.stemcellresearch.org/facts/treatments.htm> as at 23 November 2007



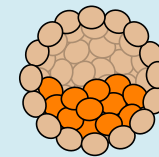
How cybrids are created



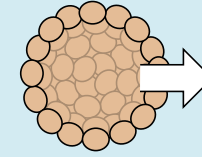
The nucleus is removed from an animal egg and replaced with a human nucleus. The nucleus of a cell contains 99% of its DNA.



The cybrid is stimulated and begins to develop.



The embryo, which is largely human, grows and develops stem cells.



The stem cells are removed and used for stem cell research. The embryo is destroyed.



No need for fathers

The Government is legislating against the importance of a father to a child's wellbeing.

Under the current law doctors have to consider "the need of the child for a father" when carrying out in vitro fertilisation (IVF) treatment.

The Human Fertilisation and Embryology Bill removes this requirement

which applies before a woman undergoes assisted reproduction.

The move will allow single women and lesbians greater access to IVF treatment.

This flies in the face of the weight of evidence which emphasises the important role a father plays in a child's development.

Redefining parenthood

It is planned to redefine what it means to be a mum or dad, creating a separate category of 'parent' for those who do not fit the description mother or father.

The Human Fertilisation and Embryology Bill encourages the creation of families in which there is no genetic link between parent and child, creating in law a family which could never exist in nature.

Homosexual couples, male and female, will be able to become parents as a result of assisted reproduction and surrogacy.

The proposals mean that any two women can become parents via assisted reproduction, and two men can become parents via a surrogacy arrangement.

Under the Bill, if a woman has assisted reproductive treatment using another man's sperm, her husband will automatically be labelled as the father unless he can prove he did not consent to the treatment.

In this way assisted reproductive adultery has become a very real prospect, with men discovering that their wives are pregnant with another man's child.

GM babies with two mums and one dad

Human reproductive cloning, previously banned in the UK, may become legal in some circumstances under new Government powers introduced by the Bill. It will allow the Government to introduce regulations in the future which permit a specific form of human reproductive cloning.

Cloning is a process that seeks to make exact replicas of genetic material. Previously, a cloned human embryo had to be destroyed at 14 days. But this new Bill changes that in some circumstances.

The Government wants to do this because some cloning scientists say it could help prevent the transmission of certain 'mitochondrial' diseases.

In terms of human reproduction, mitochondria are contained within a human egg outside the nucleus. The mitochondria carry a small amount of genetic information. Their function is to produce energy so that the egg can develop. But if the mitochondria contain a genetic disease this can be passed on to the child.

Scientists want to take the nucleus of a fertilised egg which has diseased mitochondria and put it into a healthy egg of a second woman (after its nucleus has been removed). The embryo is then implanted into the original woman's womb.

The result of this process would be a child who has most of its DNA from its mother and father, but a small amount of DNA from a second woman.

The implications of such a process are manifold. For a child

to have three genetic parents may well have psychological implications, the child understanding themselves to be the product of an unnatural process.

It is not clear what the medical implications of such a process may be. Experiments in animals are not always sufficient evidence to demonstrate the suitability of the human body for a similar process.

Whilst there may be immediate relief from a specific mitochondrial disease, the transfer of mitochondria might introduce susceptibility to other diseases. This susceptibility could become a problem for the child itself as it grows older, or may only present itself in successive

generations as a mitochondrial flaw becomes increasingly active.

The Bible teaches that human reproduction should occur by sexual intercourse within the context of marriage.

Worryingly, the decision to allow three-parent children would be contained in secondary legislation, offering far less parliamentary scrutiny.

The acceptance of such treatments for mitochondrial diseases represents a dangerous legal anomaly, and it is not difficult to envisage a situation in the future when claims are made for the acceptability of other genetic 'treatments'. The door, once opened for one form of reproductive cloning, might be very difficult to close.

