



Michael West, CEO of 'Advanced Cell Technology'. Photo: PA

Peter Saunders reviews recent developments in the cloning debate.

The cloning saga

KEY POINTS

The November announcement of the first human clone and Antinori's plans to set up a cloning clinic here caused the government to panic. The resulting *Human Reproductive Cloning Act* is full of loopholes which unscrupulous lawyers and scientists could exploit, and is likely to backfire as badly as the hasty and ill-conceived amendments to the Human Fertilisation & Embryology Act last winter. In the light of new advances in stem cell research, which are making the use of human embryo clones rapidly redundant, a wiser approach would have been an immediate moratorium on *all* human cloning (both reproductive and therapeutic) to allow time for proper primary legislation.

'A milestone in scientific depravity' was one commentator's reaction to the 25 November announcement that American scientists had produced a cloned human embryo. 'Advanced Cell Technology', the Massachusetts-based biotechnology company responsible, were adamant that their intention was 'not to create cloned human beings, but to develop life-saving therapies'. Tony Blair's government brought in emergency legislation to ban reproductive cloning and the public were left to wonder how things had moved so far so fast.

In December 2000 the government legalised research on cloned human embryos by extending the Human Fertilisation and Embryology Act. This legislation was rushed through both houses of parliament within a month on the pretext that it would allow embryonic stem cell research that could potentially lead to cures for serious degenerative diseases such as Parkinson's, Alzheimer's and muscular dystrophy.

However after the legislation was passed a moratorium on all research on cloned embryos was imposed after the Pro-Life Alliance (PLA) launched a case against the government in the High Court. The PLA argued that cloned embryos were not 'embryos' as defined in the HFE Act (ie. produced by fertilisation), and therefore not governed by that Act. Justice Crane upheld their case on 15 November, leaving Britain with no law on cloning. That very day Dr Antinori, the controversial Italian fertility specialist, announced that he was coming to set up a reproductive cloning clinic here. The government's hand was forced and within ten days the *Human Reproductive Cloning Act* - which bans placing in a woman an embryo created by any means other than fertilisation - was passed in both the Commons and the Lords.

Since the birth in 1996 of Dolly the Sheep, cell nuclear replacement (CNR) has been used to clone a variety of mammals including cows, goats and mice. Scientists at 'Advanced Cell Technology' (ACT) claimed to have used the same technique to produce a human clone by transplanting the nucleus of an adult skin cell into an unfertilised human egg - but managed to grow the resultant embryo only to the six cell stage after a week. An embryo of at least 64 cells

would be required in order to harvest stem cells for medical use. Many scientists remain sceptical as to whether it is technically possible for human clones to be born. Others see November's announcement simply as a publicity stunt for reasons of prestige and profit.

Christian Medical Fellowship and others called (unsuccessfully) for proper primary legislation and an immediate moratorium on *all* human cloning, whether for reproduction or research.¹ But the government acted in the way it did in order to ensure achieving its twin goals of promoting therapeutic cloning and preventing reproductive cloning.

The new law is full of loopholes which unscrupulous lawyers and scientists could potentially exploit. For example, there is now nothing to stop cloned embryos being produced in the UK and exported for implantation abroad (or in a ship anchored offshore). And cloned babies can still be born here. Because cloned embryos are not covered by the HFE Act, they could now be grown in a lab past 14 days (and if the technology becomes available to the foetal stage or even 'to birth'). Cloned embryos could also conceivably be placed in the womb of a female of another species or in a man (theoretical possibilities but not beyond technological advance).

The new law will also be impossible to police - this is because no-one will announce the existence of illegally cloned humans until after they are born - when it will be very difficult to prove that they were implanted in the UK or even that they are clones. If lawyers were to deny cloning the burden of proof would be then be on the government to produce the two individuals who provided the nuclear (and mitochondrial) DNA. If the donors had since emigrated or eluded detection, or even worse died, the police would presumably be left to hunt down (or dig up) the 'suspects' at the taxpayers' expense.

I have previously argued² that the production of cloned embryos, even for stem cell harvest, is unethical because it treats the embryo as a means to an end, dangerous because of the slippery slope to reproductive cloning and unnecessary because there is an ethical alternative in adult stem cell technology.

The Donaldson Report, which recommended the use of embryonic stem cells and which provided the basis for the government's hurried legislation last

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December/January, is now 18 months out of date and based on yesterday's science. The latest research suggests that adult stem cells are much more easily harvestable, more versatile and more easily cultured than was previously thought.³ Adult stem cells have already been used successfully in humans in the treatment of bowel,⁴ skin,⁵ and heart⁶ disease, and in other mammals for a much broader range of illnesses.² Most of this work postdates Donaldson.

It took 277 attempts to produce Dolly and early indications are that human cloning will be much more difficult. Foetuses produced by nuclear transfer are ten times more likely to die *in utero* than foetuses produced by normal sexual means, while cloned offspring are three times more likely to die after birth.⁷ Cloning humans would lead to high foetal loss and deformities in the newborn - and will always be wrong for these reasons alone - not to mention the social and psychological sequelae for the clones, their families and society at large.

As Christians we should not be surprised by the legal, social and ethical problems that the whole cloning fiasco is creating. Whilst the responsible use of technology is part of good Christian stewardship, the end never justifies the means (Romans 3:8). We must do God's work God's way. God ordained that his image in human beings (Genesis 1:27) was to be passed on in the context of a loving committed marriage relationship, through sexual union (Genesis 2:24) and that children should be reared, protected, disciplined and educated within the context of a stable family relationship. We disregard his wisdom at our peril.

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When the Bishop of Oxford advocated therapeutic cloning he found himself under fire from a heavyweight brigade of churchmen and academics. **John Martin** reports.

Cloning advocate under heavy fire

As a long-time contributor to BBC Radio 4's 'Thought for the Day', Richard Harries, the Bishop of Oxford, is widely regarded as one of the country's leading Christian apologists. The late Archbishop Robert Runcie used to say that one of the strengths of Anglicanism was a quality that he improbably labelled 'passionate coolness'.

Listen to Harries on the BBC at 7.50am and you hear a calm, carefully modulated voice that conveys strongly held convictions with an air of measured thoughtfulness. Few Church leaders have got passionate coolness down to such a fine art.

Behind the media persona is a Christian ethicist who the Church systems have found to be a safe pair of hands on a whole range of subjects. Harries, a former Dean of King's College, London, has had a longstanding link with the Council for Arms Control. When the Campaign for Nuclear Disarmament was at its zenith, Harries was an important Christian voice that sought a different route to pacifism and unilateral nuclear disarmament. On another stage he was mandated by the Church of England to testify before the Eloff Commission, an attempt by South Africa's nationalist government to silence Bishop Desmond Tutu, when he was General Secretary of the South African Council of Churches.

Not surprisingly, then, Harries quickly became a highly influential spokesman on ethical issues as an Episcopal Member of the House of Lords. His manner and erudition commended him to a wide cross-section of parties and factions. He now chairs the House of Lords' Select Committee set up to consider the ethical issues involved in stem cell research.

Now the normally unruffled Harries is at the epicentre of a sharp debate in which he stands at odds not only with Anglican heavyweights such as Rowan Williams the Archbishop of Wales. Lined up against him is a formidable array of Catholic ethicists, academics, and pro-life activists. Among the other leading churchmen is Cardinal Cahal Daly, the Catholic archbishop emeritus of Armagh, and Kallistos Ware, leader of the Eastern Orthodox community in Great Britain. Among 19 academics joining the fray are Oliver O'Donovan, Regius Professor of Moral and Pastoral Theology at Oxford, John Milbank, Professor of Philosophical Theology, University of



Human cloning - which route to take? Photo: PA

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Virginia, and Nigel Cameron, Professor of Theology and Culture, Trinity International University, Illinois.

This remarkable international collection of church leaders and thinkers have joined forces in taking Harries to task for contending during the highly public debate about therapeutic cloning (in an article in *The Tablet*, 16 December 2000) that the Catholic Church did not regard the early embryo as always sacred until the nineteenth century.¹

He wrote that 'it was only in the nineteenth century that the Catholic position [on the status of the embryo] became absolute. Earlier Christian thought on this subject indicates an awareness of a developing reality, with developing rights as we would put it.' He cites for example Aristotle (or views attributed to him) that there is a 'vegetable soul, then an animal soul and an intellectual soul, and it is only at this last point there is, properly speaking, a human being'. He claimed that 'the Church's tradition acknowledged a similar process. Abortion was always regarded as gravely sinful. But there is a distinction in the gravity of the offence, depending whether it occurred before or after the foetus was "formed".' He brings to bear the Septuagint (the early Greek version of the Old Testament) translation of Exodus 21:22. He cites St Augustine of Hippo and Celtic penitential practice that imposed severe penalties for abortion but spoke of 'the liquid matter of the infant matter in the womb' – which he claims was a phrase used to describe an embryo – and a more mature form where 'the soul has entered it'. This is the historical/philosophical framework of his argument. Earlier in the article Harries offered two other arguments. Firstly, he says, three-quarters of eggs fertilised in the normal way are lost since they do not implant. Moreover, at least half of those that miscarry are abnormal. 'We do not mourn the loss of these eggs as the loss of a person. To put it starkly: if all these early losses were people, the afterlife would be mainly populated by those who had never been born outside the womb,' he says. Secondly he raises the much-used distinction between the acorn and the oak tree where potential (the acorn) is not necessarily accorded the rights of a mature tree where preservation orders may apply.

It is Harries' interpretation of history that draws the fire of the churchmen and academics and they have put their names to a submission to the House of Lords Committee chaired by Harries drafted by Fr David Jones, former director of the London-based Linacre Centre for bioethics.² The submission contends that the earliest Christian writings 'considered abortion to be murder, and the spiritual soul to be present from conception. The



earliest church legislation contains no reference to a distinction between formed and unformed...'. Referring to the Celtic disciplines cited by Harries the submission asserts that 'aborting an unformed foetus was sometimes regarded as a lesser sin than aborting a formed foetus. But it continued to be a grave sin'.

The submission contends that later when the thought of Aristotle led to a belief that the spiritual soul was infused 40 days or so after conception, 'there was no suggestion that the unformed foetus was ever expendable, and it continued to be regarded as sacrosanct'.

They conclude: 'In asserting that life must be defended from conception, twentieth-century Christians were in continuity with the belief of the early Church that all human life is sacred from conception. This view has been constant in the Christian tradition, despite disagreement over the origin of the soul and the penalties thought appropriate for early or late abortion.

They offer five principles (here in summary)

- The Christian tradition has never allowed deliberate destruction of the fruit of conception even though penalties for this have varied.
- Every human is a special work of God in which God is involved from the very beginning.
- The Christian doctrine of the soul is not dualistic; it requires the belief that where there is a living human individual there is a spiritual soul.
- Each human is called and consecrated by God from the womb from the first moment of existence.
- Jesus was clearly a human being from conception.

The weight of the argument seems to have left the normally unruffled Harries very much on the defensive. We await the next round of this heavyweight contest.

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KEY POINTS

The Bishop of Oxford is regarded by some as one of the country's leading apologists, but, as chair of the House of Lords' Select Committee on therapeutic cloning he is under fire from Anglican and Catholic ethicists and theologians who claim he has misrepresented the church's historical position on the status of the embryo both to politicians and the public. In a letter to *The Tablet*, and in a longer submission to the Select Committee, they argue that the church, from apostolic times until the present day, in spite of disagreements over the origin of the soul and penalties for abortion, has been constant in affirming that life must be defended from the time of conception.