

Making the Case for Genetic Cloning

By Dominic Standish
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Following legislation in Britain and the United States, will the new Italian government act to allow cloning? There are two principle issues to consider: therapeutic and reproductive cloning.

Therapeutic cloning involves the growing of embryonic stem cells, genetically identical in nearly all respects to those from the cell donor, to treat illnesses. Stem cells are different from most cells in the body, which after reproducing once or twice, wind down and die. In appropriate conditions, early embryonic stem (ES) cells can repeatedly reproduce themselves (into "lines") and remain able to develop into different sorts of cells.

Cloned embryonic stem cells potentially could be used to cure people with diseases including Alzheimer's, diabetes, leukemia, multiple sclerosis, Parkinson's, forms of cancer and those with liver, heart and kidney illnesses.

In addition, there is the potential for reproductive cloning — conceiving a child who is genetically the twin of a cell donor. This could provide children for infertile couples as with "in vitro fertilization" (IVF).

Reproductive and therapeutic cloning, IVF and most other human activities are "unnatural."

In December 2000, the British Parliament legislated for the cloning of embryos for stem cell research after a two-year delay that has postponed possible life saving research. The research, despite common perceptions, is still subject to severe restrictions outlined in the Donaldson Report.

These include the banning of reproductive cloning, the need for evidence that the research could not be carried out by other means and close monitoring.

In the U.S., the House of Representatives passed a bill banning cloning for reproduction and medical research in July. Then on Aug. 9, President George W. Bush made a statement committing federal funding to research on existing embryonic stem cell lines. But he banned the destruction of more embryos, which is necessary for further embryonic stem cell research. This includes forbidding stem cell research using embryos that will be discarded anyway after use by fertility clinics.

Mr. Bush's decision will now face Senate examination. The 64 worldwide embryonic stem cell lines claimed to be

in existence when Mr. Bush made his statement have not all materialized and there are doubts about the viability of those that have been identified. Nor is it certain that the institutions holding the cells will make them available for research.

Limiting the availability of embryos to provide stem cells will severely hamper research.

Will the Italian government be as restrictive as the British and American governments?

Many Italian ministers have spent the summer flying kites for "radical" new plans for labor legislation, education and pensions. But the health minister, Girolamo Sirchia, appears conservative on genetics. He has stated that personally he is "categorically" opposed to using human embryos for research.

Mr. Sirchia has claimed that using adult stem cells is fruitful, although more expensive, than using embryonic stem cells. But is this just a concession to the anti-abortion agenda that seeks to prevent the destruction of embryos for early stem cell research?

In fact, currently adult stem cells are much less useful since they are less able to self-renew, are rare and can only be made to differentiate into new cell types with great difficulty and additional problems.

Why use adult stem cells even if and when the only disadvantage is expense?

Misguided moral sentiment should not be allowed to block efficiency. The process of reversing these differentiated cells is always likely to be difficult and more hazardous in a therapeutic context. Embryonic stem cells provide the best material for research and therapeutic cloning research should be endorsed.

Regarding reproductive cloning, one of the main protagonists is Severino Antinori, an Italian gynecologist, who intends to begin cloning humans as soon as this November. At present, this cannot be done in the U.S., Italy, Britain or anywhere else in the European Union, which imposed a ban in 1998. Dr. Antinori has the option of using a ship in international waters or one of the many countries that have not yet legislated against reproductive cloning.

Most objections to reproductive cloning focus on two things: the fear of duplicating humans and safety issues. But reproducing a human with the same genes as another does not mean creating an identical person. Even identical twins have the same genes, but different fingerprints and personalities.

This is excellently explained in Kenan

Malik's book "Man, Beast and Zombie. What Science Can and Cannot Tell Us About Human Nature." (Weidenfeld and Nicolson, 2000). As Mr. Malik explores, who we are is a combination of genes, environment and, decisively, our consciousness in terms of what we decide to do with our lives. Cloned people will differ from their donors in everything but their genes.

The only valid point against reproductive cloning is that it is not yet safe. But this is an argument for extending

research, not impeding it.

Therapeutic cloning is a long way from the clinic and imminent reproductive cloning appears hasty. But these are not reasons for the government to obstruct genetic cloning. On the contrary, allowing scientists to experiment with therapeutic and reproductive cloning could usher in a new era for medical science.

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