

STATE OF THE ART

A SURVEY OF TECHNOLOGY AND SOCIETY, BY THE EDITORS

The Age of Cloning	Click Twice and Call Me in the Morning
Do Embryos Vote?	History Repeating?
The Nanotech Schism	Gatekeepers of Science
Online Democracy	Power-Hungry China
Life is Just a Game	'The Seams that Hold Us Back'
The Ideological Environmentalist	Notes & Briefs

The Age of Cloning

Breakthrough in South Korea, Stalemate in the Senate

The recent announcement that researchers in South Korea have cloned the first human embryos may plunge bioethics back to the center of national politics. A few years ago, American scientists at Advanced Cell Technology claimed to have accomplished this feat—the first human clones. But their work has since been called into question, and the cloned embryos they supposedly produced only survived a few cell divisions. The story came and went, and the cloning debate, which has been before Congress for two congressional sessions, has not moved an inch from where it stood in 2001: the House has twice passed a bill banning the creation of cloned embryos, the president supports it, and the Senate has not voted.

Now the age of human cloning seems to be upon us. What the scientists at Seoul National University have achieved is scientifically, ethically, and humanly momentous. They cultivated 30 cloned human embryos to the blastocyst stage—the stage when an embryo can be implanted

into a woman's uterus to initiate a pregnancy or torn apart in the laboratory to harvest embryonic stem cells. More importantly, they seem to have mastered a technique that can now be replicated around the world—they've written the "cookbook," as one American scientist enthusiastically put it.

When one reads the actual paper in *Science* magazine, it sounds hauntingly like the "decanting room" in Aldous Huxley's *Brave New World*—systematic, precise, and unrepentant about its use of women as egg factories and human embryos as raw materials. In the South Korean experiments, 242 eggs were harvested from 16 women; 14 cloning "protocols" were tested; 30 embryos were developed to roughly the 100-cell stage; all of them were destroyed—to get one stem cell line.

The question is whether the country and the Congress still shudder at such developments, or even believe that we can debate the wisdom of proceeding with such research before it becomes a *fait accompli*: Will we govern ourselves or sim-

ply go wherever science takes us? Will we begin a massive project of embryo harvesting and human cloning or set moral boundaries? Will we see technological horrors for what they are or simply get used to everything?

Of course, the motives for engaging in such research are often noble or compassionate. No one is blind to the horrors of human disease, and serious opponents of research cloning do not dismiss outright its potential scientific and medical value (though its benefits are often irresponsibly over-hyped). But as Paul Ramsey once put it, the “moral history of mankind is more important than its medical history.” The pursuit of health does not justify the crossing of every boundary—such as the creation of nascent human life simply as a resource for our use.

Perhaps more profoundly, the South Korean experiments lay the groundwork for the production of cloned human children—for a world where the relationships between parents and children are deformed, where women can give birth to genetic copies of themselves, where children can enter the world without the natural ties and open future that are the birthright of every child.

But while the stakes in the cloning debate could not be higher, the politics are still adrift—with all things hinging on what happens in the Senate. The Senate stalemate

involves a face-off between two competing bills: the Brownback bill, which would ban all human cloning, including the creation of cloned human embryos; and the Hatch-Feinstein bill, which explicitly endorses and promotes the creation of cloned human embryos, while banning the implantation of such embryos to initiate a pregnancy.

But in reality, this is a false choice. The Hatch-Feinstein bill supporting research cloning has no chance of passing in the House. It is politically dead on arrival. And so the question for supporters of cloned embryo research (mostly Democrats) is this: Are they willing to stall passage of a ban on human cloning to ensure that researchers can still clone human embryos? Are they willing to risk the age of cloned children to secure an additional source of stem cell lines?

Since the late 1960s, sober observers of modern biotechnology warned that this day would soon come—when we would be forced to decide how far we wish to extend the empire of human control over human procreation, and the empire of natural resources to include human life at its earliest stages. It has fallen upon us, at this moment, to make this grave decision. How we decide will say much about the character of American civilization and American progress, and much about our capacity to enjoy the blessings of modern medicine without becoming high-tech barbarians.