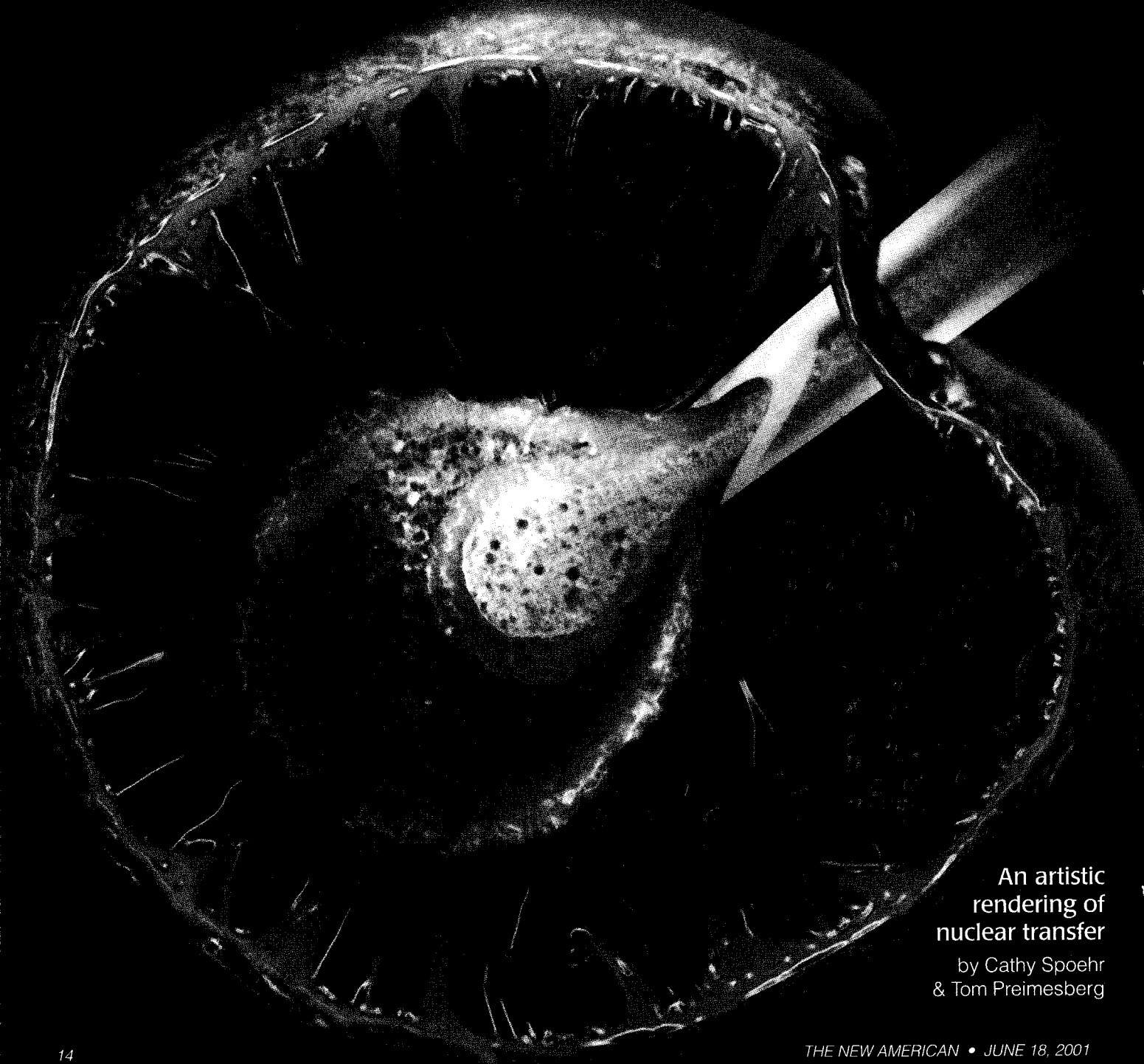


# Picking the Lock on Pandora's Box

The current debate on human cloning is churning with faulty reasoning and a flawed understanding of the scientific, ethical, and moral problems the issue entails.



An artistic  
rendering of  
nuclear transfer

by Cathy Spoehr  
& Tom Preimesberg

by Jennifer A. Gritt

According to an Associated Press report for March 28th, the Bush administration announced that the president “would sign a federal law outlawing” human cloning research, and that “members of Congress appeared eager to send him the legislation.” As a recent nationwide poll showed, approximately 90 percent of American citizens who responded are opposed to cloning humans. Five states — California, Louisiana, Missouri, Michigan, and Rhode Island — have already passed legislation banning human cloning. But as the AP report went on to reveal, although “mainstream scientists are unanimously opposed to human cloning, at least for now, two groups of scientists have promised to move ahead within the next year or two.”

From the moment a cloned sheep named Dolly was introduced to the world, humanity was bombarded with the possible ramifications this technology might bring. Arguments for and against human cloning have erupted from the pinnacles of science, philosophy, religion, etc. — but a disturbing number of these arguments are not anchored in scientific reality. In most of these cases the knowledge science has already provided is being completely dismissed or ignored. Thus, the debate on human cloning gets reduced to a complicated mess in which morality, ethics, science, and the human desire to achieve and reproduce become enmeshed before the backdrop of human fallibility and the monolithic American legal system. It is a debate tortured by humanity’s inability to completely agree on what it means to be a human being. And it is a debate that could easily be resolved if humanity could somehow acknowledge the limitations of science. For it must be realized that no matter how many doors to knowledge science has opened, when it comes to creating human beings, science is not currently capa-



Scott Alberts

**Unique individuals:** If genetic determinism had any amount of validity to it, then naturally occurring clones — identical twins — would not only share physical characteristics, but would have the exact same identities and behavioral patterns. This, however, is not the case.

ble of understanding and controlling the multitude of complex variables that interact in the creation and development of an individual human. This is a point of significant importance as biological science continues to minimize considerations of human spirituality by simply denying that they exist.

### Fallacies of Human Cloning

There are many arguments and perspectives on human cloning that are far removed from the reality of human biology and psychology. Some of these unrealistic notions are even being expressed by certain top intellectual pillars of the scientific and philosophic communities.

The first of these off-the-wall claims is that human beings can somehow achieve a certain level of immortality through their clones. Renowned biologist Richard Dawkins, who is a Professor of Public Understanding of Science at Oxford University, articulated this idea in his essay *What’s Wrong With Cloning?* Opening his argument with the question, “mightn’t even you, in your heart of hearts, quite like to be cloned?” — he rambles on that the “motivation need have nothing to do with vani-

ty, with thinking the world would be a better place if there was another one of you living on after you are dead.... I would find it a personally riveting thought that I could watch a small copy of myself, fifty years younger and wearing a baseball hat instead of a British Empire pith helmet.... Mightn’t it feel almost like turning back your personal clock fifty years? And mightn’t it be wonderful to advise your junior copy on where you went wrong, and how to do it better?” However riveting Dawkins might find the possibility, the only thing clones share is genetic material — *not identities*. One must remember that identical twins — who share the same genetic material as clones would — are two distinct individuals. Therefore, “you” will remain “you,” and upon passing, your identity would not live on through your clone.

Dawkins proceeds to introduce another fallacy of human cloning. He speculates that the “technology might not be limited to single copies of the cloned individual.” This, in turn, inspires the idea of “phalanxes of identical little Hitlers goose-stepping to the same genetic drum,” which despite the fact such a concept defies the laws of nature, invokes for Dawkins a “vision so

horrifying as to overshadow any lingering curiosity we might have over the final solution to the 'nature or nurture' problem (for multiple cloning, to switch to the positive again, would certainly provide an elegant approach to that ancient conundrum)." Maybe Dawkins missed it but this "ancient conundrum" of nature vs. nurture has already been resolved for the most part by the accepted realization that human development is a complex interaction of both.

As the U.S. National Bioethics Advisory Commission pointed out in their congressional report on human cloning: "Although genes play an essential role in the formation of physical and behavioral characteristics, each individual is, in fact, the result of a *complex interaction between his or her genes and the environment within which they develop*, beginning at the time of fertilization and continuing throughout life." (Emphasis added). The report went on to assert: "Knowing the complete genetic makeup of an individual would not tell you what kind of person that individual would become." In short, simply cloning Hitler would not result in new Hitlers.

Related to Dawkin's fantasies of immortality and "master races" — and significantly more problematic — is the notion that human cloning technology could be used to resurrect the dead. This motivation arises out of the desire to recreate the *actual* person so that the bereaved might somehow *get them back*. It is nothing more than a morbid hallucination, one which has become a driving force behind one group's attempt to clone a human.

According to the March 28th AP report, one of the two groups of scientists who are forging ahead with their plans to clone a human is a religious cult known as the Raelians. The Raelians believe that "life on Earth was created by extraterrestrial scientists." Brigitte Boisselier, who is currently directing the Raelians' lab, dismisses safety concerns, and says that the "prob-



**Weird science:** Rael, the leader of the religious cult known as the Raelians, defended his group's intentions to attempt to clone a human at a congressional hearing on March 28th.

lems have all come in cloning animals and do not apply to potential human cloning." Boisselier is "currently working with a father who is devastated by the death of his son and wants to clone him." According to a March 28th Fox news report, the couple has "agreed to pay \$500,000 to clone their 10-month-old child, who died of a birth defect." This begs another question, one which Boisselier and the Raelians are not addressing. Even if human cloning was somehow remotely possible, what would keep the cloned child from dying from the same birth defect?

This question introduces the related issue of eugenics — not the unrealistic Nazi variety of breeding a genetically superior race of humans or the evolutionary pipedream of "helping" the process of natural selection — but the scientific field

of gene therapy which seeks to eliminate recognized diseases and abnormalities by genetically altering humans, sometimes in the early stages of development.

What is important to note is that eugenics, as it was first developed as an *ideology*, dealt with the prospect of breeding what was considered to be genetically superior humans with each other in the hopes that the "less desirables" would then be erased from the supposed evolutionary process. Gene therapy, though, deals with the screening and altering of genes carried by those humans who early eugenic ideologues would have considered inferior. Gene therapy technology can be used to genetically screen for certain protein abnormalities scientists believe might lead to cancer and other diseases, but it is far from being able to genetically engineer a superior or "perfect" human. Human beings are significantly more complex than mere matter in motion. As the National Bioethics Advisory Committee emphasized: "The increasingly sophisticated studies coming out of human genetics [most recently, the reading of the human genome] are showing that the

better we understand gene function, the less likely it is we will ever be able to produce at will a person with any given complex trait." In other words, the greater the knowledge gained through this scientific pursuit, the greater the complexities and mysteries revealed.

However appealing the idea that cloning technology can somehow provide humans with the ability to disavow death and create a genetically superior baby, science can not fulfill those promises.

There are somewhat more realistic ideas being formed by human cloning advocates which have been compiled into a list of potential medical benefits that could be acquired through human cloning research. These benefits include a better mechanism for finding cures for major diseases, revolutionizing organ transplantation, and cur-

ing infertility. This list of medical "hopes" currently employ techniques that are battered and scarred from unresolved social and moral conflicts. And the further one goes down the list of "potentials" the more complicated and controversial the issues attached to them become.

### Scientific Hope

Exactly how is *human* cloning going to pave the way to developing cures for cancer, Alzheimer's, Parkinson disease, and AIDS? Certainly cloning technology can be used at the animal level — if scientists can someday eliminate the multitude of biological abnormalities — to research possible cures for these diseases. (See "The Science of Cloning" on page 22.) But how does *human* cloning fit into the logistics of medical research? Creating a human embryo through cloning techniques, by electrically fusing DNA to a surrogate cell and implanting it into a woman for gestation and eventual birth does little to offer a potential research platform for therapeutic discovery considering the numerous ge-

netic defects and abnormalities that currently plague the cloning process. As far as scientists cloning human beings for the sole purpose of conducting radical medical experiments, the moral and ethical violations are clear and the reasons for banning human cloning are self-evident.

The case for "growing" genetically identical internal organs for transplantation is flawed as well. Scientists are nowhere near being able to grow any healthy internal organ, for either an animal or a human, in a way completely detached from growing the entire organism. Until scientists can grow a liver and only a liver, the entire proposal gets reduced to the technological equivalent of putting the cart before the horse. As to the possibility of mad scientists cloning humans for such purposes, the National Bioethics Committee was vehemently opposed: "The notion of using human cloning to produce individuals for use solely as organ donors is repugnant,

**However appealing the idea that cloning technology can somehow provide humans with the ability to disavow death and create a genetically superior baby, science can not fulfill those promises.**

almost unimaginable, and morally unacceptable." The ethics violations, again, are very clear and the reason for banning human cloning for the use of harvesting organs is inarguable.

But the issues surrounding organ transplants bring to light a recent medical practice that, despite not being widely employed, has raised some complicated ethical questions. In a few isolated cases, parents of children suffering from a particular disease have chosen to have another child in the hopes that that child would be able to provide whatever was needed — bone marrow, kidney, etc. — to save the first child's life. This poses the

question of whether parents have the individual right to do this. Despite the small outcry from certain segments of society, the general attitude is that parents should be allowed to choose to have another child as a potential means to save another. But now that human cloning is dangling on the horizon, is this a potential technology parents could use for the same purpose? Or for that matter, could individuals suffering from a life threatening disease use human cloning in an attempt to save themselves? How far should humans and science go in an effort to stave off the inevitable? And in consideration of the other end of the spectrum, how far should humans be allowed to go in order to reproduce?

The argument begins to spiral down towards the concept of perceived individual rights. This includes not only the supposed right to "save



**Cruel science:** Rogue scientists Severieno Antinori (left) and Panos Zavos argue that human cloning is nothing more than the latest reproductive technology that has the potential to "cure" infertility. Over 500 infertile couples have flocked to the duo to take part in human cloning experiments.

**In order for human cloning advocates to use *Roe* as a legal precedent in their arguments against legislating a ban on human cloning, they must first justify the ideological leap from “a woman has the legal capability to stop a baby from being born after conception” to “human beings have the right to reproduce any way they choose.”**

thyself” but what has become a confusing notion of an individual’s “right to reproduce.” As Randolfe Wicker, head of Cloning Rights United Front of New York, wrote in the May 25, 1997 edition of *New York Times Magazine*: “My decision to clone myself should not be the government’s business, or Cardinal O’Connor’s, any more than a woman’s decision to have an abortion is. Cloning is hugely significant. It’s part of the reproductive rights of every human being.”

### **Infertility and “Reproductive Rights”**

First of all, human cloning would not cure infertility. A man or woman physically incapable of conceiving a child through sexual reproduction will remain physically incapable until scientists discover a way to actually fix what’s going wrong internally. Infertility takes an emotional toll on millions of people who desperately want to have a child and who reject adoption as a solution. Cloning as a benefit to infertile couples is a strong argument — one that has the greatest potential of overcoming revulsion at the thought of human clones and opening the scientific floodgates in hopes that the reproductive promise might someday be fulfilled. However, this scientific road must first pass through the horrific landscape of countless miscarriages and human abnormalities that would result from any pursuit of using cloning as a reproductive technology. So instead of addressing the mysteries surrounding reproductive problems that currently plague individual humans, human cloning advocates are putting their faith in a highly imperfect method of manufacturing a human in order to bypass “nature’s cruelty.”

Two renegade scientists, Severino Antinori and Panos Zavos, are shrugging off the very real scientific problems of the existing cloning technique in their mad dash to be the first to prove that human cloning can, in fact, “cure” infertility. According to a March 9th Reuters report, “between 600 and 700 couples had already registered” to take part in the Zavos-Antinori experi-

ments and “numbers were rising rapidly.” Antinori gained notoriety for enabling a 62-year-old woman to give birth after menopause. He claims that his experience working in in-vitro fertilization (IVF) clinics has given him the ability to screen any genetic deformities that might occur during the process of human cloning.

A 1998 congressional report on human embryo research compiled by the National Council for Science and the Environment reveals, however, that “the overall live birth rate — 14% for each IVF treatment cycle in the United States and 12.5% in England — is very low. Investigators at IVF clinics have focused most of their embryo research efforts on trying to improve the low efficiency of IVF. Such work suggests that in some cases, there may be problems with embryos themselves (e.g., genetic defects), and in others, problems associated with the culture conditions or uterine problems that prevent implantation.”

Embryos used by IVF clinics are formed by the natural process of fertilization — sperm meets egg, sperm and egg unite, etc. — not by sucking out the genetic material of one cell and fusing it to a different one in the hopes that it will grow into an embryo. If IVF technology cannot successfully screen known genetic defects in naturally fertilized embryos, how can Antinori guarantee he’ll be able to screen genetic deformities in cloned embryos? Tragically, the men and women reportedly flocking to the Zavos-Antinori doorstep appear unconcerned and undeterred by this unanswered question. Instead, infertile individuals throughout the nation are denying the reality of their inherent biological incapacity, and advocating human cloning as a reproductive technology based on the en-

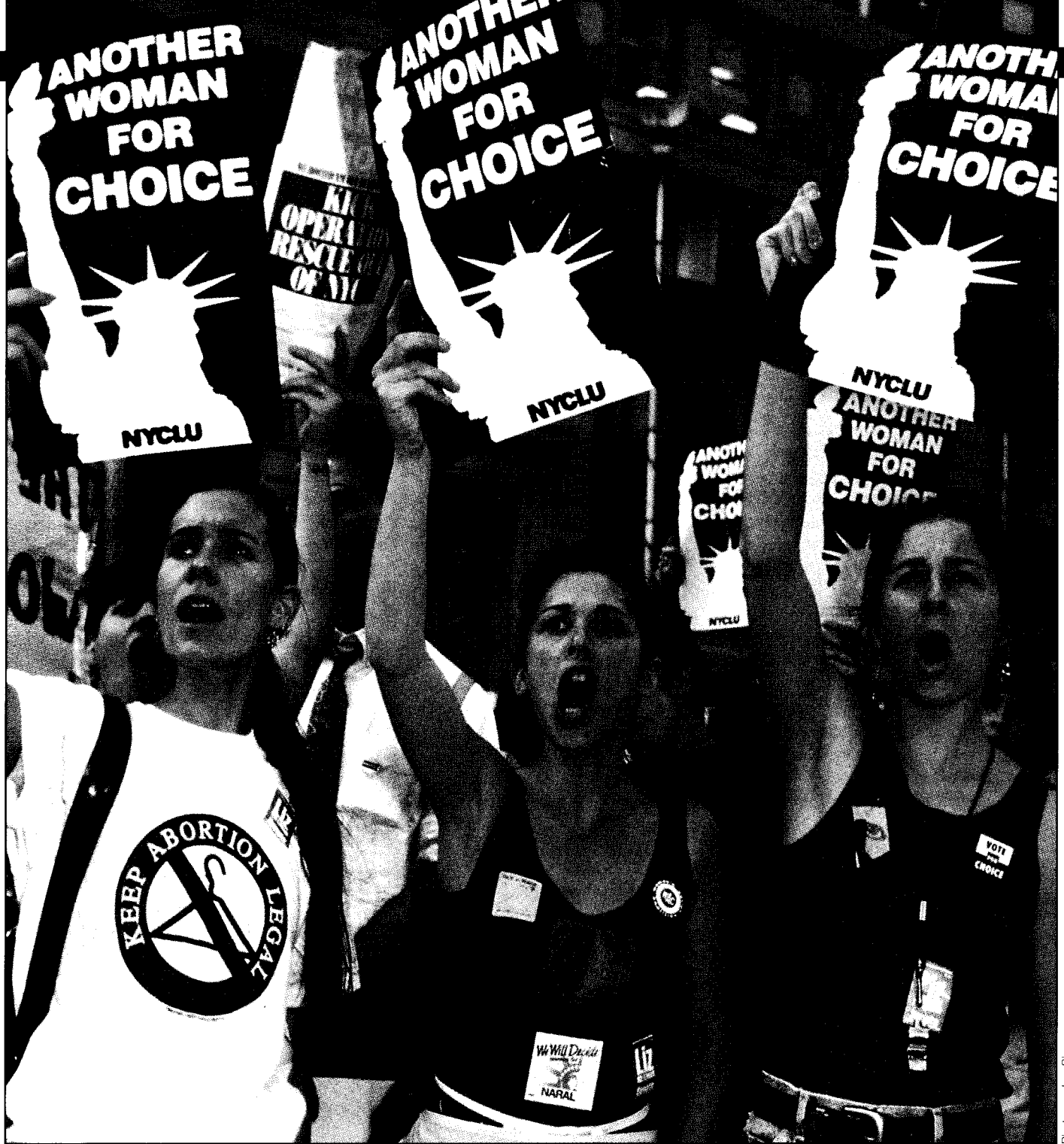
trenched mindset that they somehow have the individual “right to reproduce” — at all costs.

### **Perceived vs. Inherent Rights in Society**

As bioethicist Leon R. Kass points out in his essay *The Wisdom of Repugnance*, those who defend human cloning “regard themselves mainly as friends of freedom: the freedom of individuals to reproduce, the freedom of scientists and inventors to discover and devise and to foster ‘progress’ in genetic knowledge and technique.” Kass goes on to stress:

In truth, a “right to reproduce” has always been a peculiar and problematic notion. Rights generally belong to individuals, but this is a right which (before cloning) no one can exercise alone. Does the right then inhere only in couples? Only in married couples? Is it a (woman’s) right to carry or deliver or a right (of one or more parents) to nurture and rear? Is it a right to have your own biological child? Is it a right only to attempt reproduction, or a right also to succeed? Is it a right to acquire the baby of one’s choice?

The concept of an individual right in America has a long, tortured history of interpretation and reinterpretation. This stems from a misunderstanding or a misrepresentation of the Founding Fathers’ acknowledgement that the basic human rights of “life, liberty, and the pursuit of happiness” are inalienable. They are the inherent, “God-given” rights of each individual human and governments are “instituted among men” in order to protect them. Still, the inescapable fact that human beings must coexist with each other introduces the necessity of an organized society. The Founding Fathers designed a government that was to be as non-restrictive as possible. Individual liberty was to be protected insofar as it would not directly affect the individual liberty of another. But as American history has shown, when faced with a complicated issue — one that has the potential to dramatically impact not only other individuals, but society on a whole — individual liberty has been molded and defined to exist within the boundaries of acceptable social constructs. In the Founders’ view, this was best accom-



Photographer: Showcase

**Pro-choice demonstrators** hawk their views on the streets of the Big Apple. Advocates of human cloning argue that the Supreme Court's decision in *Roe v. Wade* grants Americans the right to reproduce in any way they choose, including through cloning.

plished through existing social customs and institutions rooted in biblical tradition, rather than through state coercion.

It is when the issue is not a potential harm to society, but a threat to the rights of other individual human beings, that law has a role to play. For example, an individual who chooses to exercise the personal liberty to murder another individual is going to be punished. The personal free-

dom to choose to kill is a liberty that has been restricted by law because society has deemed it morally unacceptable. But in the case of individual reproduction, complications and confusions abound, due in no small part to a controversial 1973 Supreme Court decision that ushered in the concept that a woman has the "right" to choose to have sex, but in the event of conception, can choose not to reproduce.\*

### **The Reality of *Roe***

*Roe v. Wade* is a Supreme Court decision. It is a legal precedent from which other cases can be argued. *It is not a law.* Nor is it a constitutional amendment which would place it in the company of the Bill of

\* Statistically, conception from rape is extremely low. On a whole, most Americans understand that abortion is used by women as a means of birth control.

**Science's inability to find the answers to the numerous mysteries that continue to surround the biological, mental, and spiritual aspects of human beings pales in comparison to its greatest inability of all — not being able to foresee the consequences of scientific experiments.**

Rights. Pro-abortion advocates who maintain the absurdity that *Roe* somehow elevates legalized abortion to the status of a fundamental, constitutional, individual right must accept another absurd interpretation of a Supreme Court decision, namely that white southerners had the fundamental, constitutional right to legally separate themselves from and discriminate against black citizens between the years of 1896 and 1954 — for *Plessy v. Ferguson*, which gave a High Court thumbs-up to segregation, was a Supreme Court decision as well. This interpretation of *Plessy* is, of course, insane. But if pro-choice advocates accept the absurdity that *Roe* is a fundamental, constitutional right, then they must also accept such absurd interpretations of *Plessy*. This also goes to shed a rather complicated light on the notion of what constitutes a “constitutional, individual right” — for in both of these cases the individual rights perceived to be guaranteed through Supreme Court decisions had the potential to negatively affect the individual rights of another.

Of the many points of contention oozing out of *Roe*, the question of exactly when society agrees human life is worthy of legal protection has never fully been answered. Pro-choice advocates claim that life does not become worthy of protection until *after* it is born. This is a consideration the scientific community relies on as well in order to justify human embryonic research. If a fetus was suddenly given the status of being a human individual worthy of legal protection, then what's stopping that same definition from being applied to a human embryo when the two are only separated by a matter of months?

Over half the states in America have adopted infanticide laws, and the House of Representatives recently passed one, which

challenges the notion that human life begins after birth by determining that a developing fetus is an individual separate from the mother and worthy of protection. If *Roe* were challenged by an infanticide law and overturned, the scientific community would have to acknowledge that conducting experiments on human embryos for research purposes — no matter what potential good might come out of

it — would have to be reconsidered. Science would have to find an alternative route to solving the medical mysteries they are seeking answers for. The fact that *Roe* as it stands now, weakly determines that human life legally begins at the moment when a child is capable of breathing on its own, provides the only legal corridor through which the pursuit of human cloning can slide. But human cloning advocates are using *Roe* to argue a significantly different perspective — claiming legalized abortion affirms the radical notion that individuals have a legal “right” to reproduce.

In order for human cloning advocates to use *Roe* as a legal precedent in their arguments against legislating a ban on human cloning, they must first justify the ideological leap from “a woman has the legal capability to stop a baby from being born after conception” to “human beings have the right to reproduce any way they choose.” Given the disparity between the two modes of thought, human cloning activists are confronted with a legal and moral nightmare in that abortion protects a choice to destroy not create. Instead of declaring “I have a right to reproduce,” *Roe* instead proclaims “a segment of society can individually determine who is allowed to be born.” So exactly how would *Roe v. Wade* provide a legal platform for arguing that a universal ban on human cloning would strip individuals of a constitutional right? The reality is, it doesn't.

Another complicated issue resulting from the *Roe* ethic is the perception that human beings are nothing more than biological machines that can be controlled not only by science, but by individual choice as well. It is often said by pro-abortion advocates that women should be allowed to control their own bodies. Nevertheless, no human being can really control their bio-

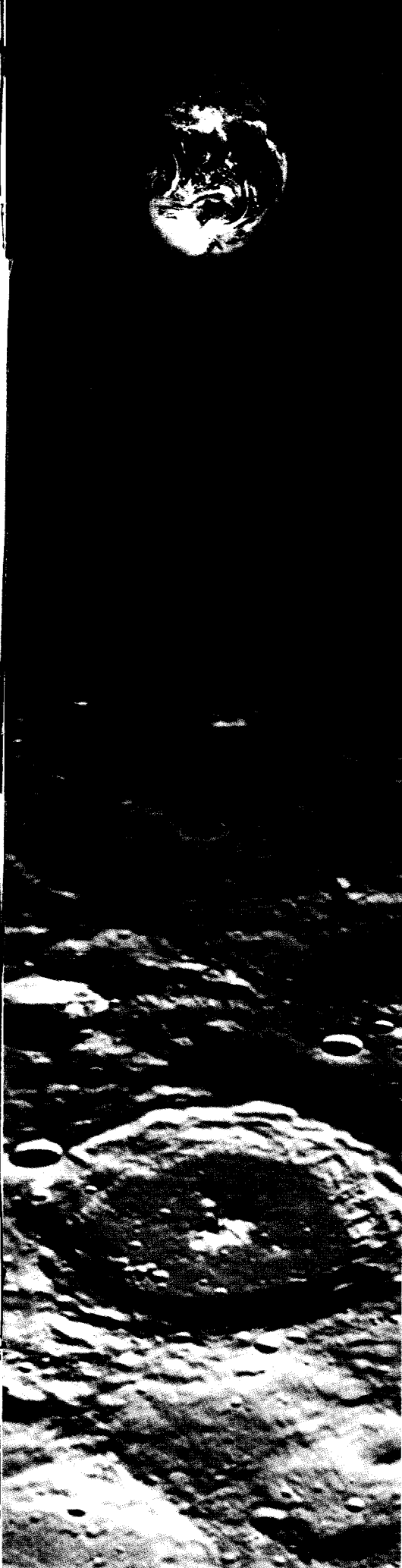
logical processes. Can a human being stop cancer from forming inside of them? Can a human being control the debilitating effects of an auto-immune disorder? If a woman truly had control over her reproductive processes, then why wouldn't she, upon engaging in sexual intercourse, simply “will” conception from happening in the first place? The appearance of “control” in these situations is, in reality, human manipulation and interference. Humans, and science for that matter, have figured out ways to manipulate the results of natural biological processes in order to suit a given situation. In the case of abortion, women simply allow other humans to kill the developing human created through sexual intercourse before the child has a chance to mature.

The *Roe* ethic serves to strip humans of their inherent significance and tries to separate the nature of humans — both the psychological and spiritual aspects — from the biological organism. This in turn casts human beings into a category of valueless biological entities in which the decision of whether or not certain humans are allowed to live is left to a select few. This mind-set does more than just separate the sacredness of human life from conception and the subsequent development of a baby within a mother. It justifies the precept that humans can determine who is worthy of life — an ideology that has already been utilized by the murderous, totalitarian regimes of Stalinist Russia and Nazi Germany.

It is a mind-set that permeates the advocacy of human cloning as well, one which disregards the sanctity of human life in a reckless attempt to bypass the complicated process of human reproduction under the delusion that human beings can somehow control every aspect of their destinies. But instead of dealing with the numerous contradictions and problems of individual control over one's destiny when it comes at the expense of someone else's (in this case, the unborn), human cloning advocates retreat into the familiar argument that by regulating science in any way, society would forever shackle the pursuit of knowledge and what some consider to be human progress.

### **Regulating Science vs. “Playing God”**

As the April 12th issue of the *Economist* pointed out, when “Bill Clinton announced



a moratorium on human reproductive cloning in March 1997," Senator Tom Harkin told the president to take his "ranks alongside Pope Paul V, who in 1616 tried to stop Galileo." Although the *Economist* considered this remark to be magnificent, in actuality, it was breathtakingly ignorant. There are vast differences between cloning humans and Galileo's publishing his theory of the solar system — and it is a distinction that humanity is more than capable of making. Harkin's facile remark evokes the historical struggle between religion and science. It is a struggle in which tradition is often pitted against innovation, with the latter prevailing in most cases.

But as the Bioethics Committee discovered, there is no religious consensus as to the reasons why human cloning should not be allowed. It noted that "religious perspectives on cloning humans differ in fundamental premises, modes of reasoning, and conclusions." In his essay *Cloning Humans from the Perspective of the Christian Churches*, Ronald Cole-Turner concluded that "most of the attention of the churches has been focused on the possibility of cloning as a human reproductive technique. Nearly all the churches and church leaders who have spoken have opposed this development. Their arguments are varied and often not clearly stated or fully developed." Despite this lack of consensus, those arguing in the favor of science have been quick to debunk any potential religious perspective as being nothing more than an unenlightened fear of the unknown.

Robert A. Lindsay, in his essay *Taboos Without a Clue: Sizing up Religious Objections to Cloning*, generalized that the main religious argument centered on the premise that human beings are attempting to "play God." Lindsay emphasized that "this is the most common religious objection, and its appearance in the cloning de-

**The final frontier:** Human cloning has brought mankind to an impasse. Should knowledge be pursued by science at all costs, or are some costs just too high? Are we willing to accept multitudinous miscarriages and birth defects in order to achieve asexual reproduction? Are we willing to decide that the ends finally do justify the means? The answer must be no.

bate was preceded by its appearance in the debate over birth control, the debate over organ transplants, the debate over assisted dying, etc. Any attempt by human beings to control and shape their lives in ways not countenanced by some religious tradition will encounter the objection that we are 'playing God.'

But what Lindsay fails to note is that human beings, while applying a scientific method to anything, cannot control the outcomes of their experiments. And although Lindsay might have a point when it comes to not regulating other technologies for frivolous reasons, when it comes to cloning a human being, science is simply out of its league. It is not a matter of "playing God" but rather one of attempting to *be Him*.

Human beings, when viewed within the big picture of both this planet and the uncharted universe, are dramatically limited even with the vast amounts of knowledge already available to us. Science's inability to find the answers to the numerous mysteries that continue to surround the biological, mental, and spiritual aspects of *Homo sapiens* pales in comparison to its greatest inability of all — not being able to foresee the consequences of scientific experiments.

Mary Warnock, in her essay *The Regulation of Technology*, warned that out of a necessity to preserve academic freedom, "research, or indeed the content of teaching for that matter, must not be controlled by those who are ignorant." She argued that, "we need to learn the facts, and the probabilities, first, and then form a judgement upon them." Well, the fact is human cloning is plagued by scientific, ethical, and moral problems. The probability of ever successfully cloning a human being is extremely low. The reality of pursuing it would result in countless miscarriages and the potential for human abnormalities scientists cannot prevent. And American citizens have already expressed the initial judgement that they do not want human cloning to be pursued for any reason, even if they cannot fully articulate the reasons why. Stopping the pursuit of human cloning without jeopardizing cloning research at the animal level is a line humanity is more than capable of drawing. And for the sake of our future, and the future of the human race — we must. ■