

HUMAN CLONING AND STEM-CELL RESEARCH—SCIENCE’S “SLIPPERY SLOPE” [PART II]

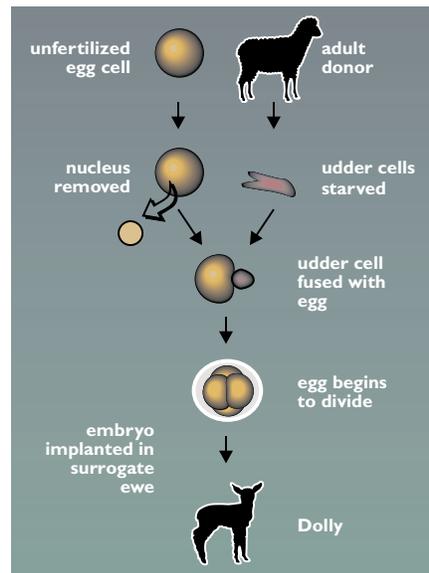
Bert Thompson, Ph.D. and Brad Harrub, Ph.D.

[EDITOR’S NOTE: In the “Editor’s Note” accompanying last month’s issue of *Reason & Revelation*, I alluded to the fact that reports are “surfacing with disturbing frequency about scientists’ planned use of human-derived stem cells,” and that as a result I felt an in-depth analysis of this subject certainly was warranted in these pages. In the short, one-month span since the August issue was mailed, research on human-derived stem-cells has become the focus of a national—no, make that a worldwide—debate. On August 9, 2001, George W. Bush, President of the United States, made stem-cell research the topic of his first major address to the American people since taking office in January of this year. During that speech, he explained that it would be his administration’s policy to support federal funding **only** for research on stem-cell lines already in existence, rather than making government funds available for research programs that obtained stem cells via methods requiring the destruction of additional embryos (for example, experimentation on soon-to-be-discarded embryos left over after *in vitro* fertilization procedures). As we will point out in this issue, and in Part III in October, science now has taken the first perilous step on that infamous “slippery slope.” Once again, therefore, we invite your serious attention to these most urgent matters.]

CLONING—MIRACLE OF LIFE, OR DEATH SENTENCE?

How, exactly, does cloning work? Cloning procedures currently involve the removal of an egg’s nucleus (which contains the genetic “blueprints” of the cell) in order to replace it with the nucleus from either an adult somatic (body) cell that has been “stressed” (via chemicals, radiation, nutrient deprivation, etc.) or an embryonic stem cell.

Under normal conditions, cells go through a process known as “differentiation,” during which the majority of the DNA within the cell is deactivated—except for a small portion that instructs the cell regarding its future destiny. For example, once a cell differentiates,



Technique used by Wilmut, et al. to clone a sheep. Their breakthrough involved starving body cells of nutrients, thus interrupting the normal cycle of growth and division. In this quiescent stage, the cell can be “reprogrammed” to function as a newly fertilized egg (after Travis, 1997, 151:215).

it is destined to become only a muscle cell, a neuron, a red blood cell, a fingernail cell, etc. Most scientists, of course, have no real desire to clone an entire laboratory of fingernail cells. What they would like to be able to do is to clone **entire organisms**. But in order to

do that, they must locate newly dividing cells (e.g., stem cells) that have not yet differentiated, or they must stress older, fully formed cells that already have differentiated in order to force them to return to an undifferentiated state. In cloning, the goal is to “reset” the developmental clock of the implanted nucleus, the result being the production of a new organism that is genetically identical to the cell from which the genetic material was derived originally.

There can be little doubt that it is only a matter of time until someone, somewhere, attempts to add humans to the list of creatures that already have been cloned. As Michael Shermer, editor of *Skeptic* magazine (and an outspoken critic of religion), wrote in his 2001 volume, *The Borderlands of Science*: “[C]loning is going to happen whether it is banned or not, so why not err on the side of freedom and allow scientists to freely explore the possibilities—not to play God, but to do science?” (p. 77). Waiting in the wings are the rogue scientists who are more than willing to “freely explore the possibilities” (and yes, even play God in the process!). In yet another 2001 book, *The Shattered Self: The End of Natural Evolution*, Pierre Baldi asserted:

Thus, in time and with the proper technology, we will be able to clone any human being whose DNA is available in sufficient amount and viable form.... Of all the scenarios we have discussed, human cloning is probably the most pressing and concrete.... **[H]uman cloning is essentially available today.** ...Cloning, gene therapies, advanced molecular medicine, and surgical procedures such as organ transplantation,

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together with a better understanding and control of environmental factors, **can render our bodies essentially immortal** (pp. 82,121, emp. added).

That idea—of potential human immortality—has not been lost on some within the scientific community. In January 2000, Panayiotis Zavos (of the Kentucky Center for Reproductive Medicine and *In Vitro* Fertilization at the University of Kentucky in Lexington) announced that within eighteen months he and Italian fertility expert Severino Antinori planned to produce an embryo—derived from human stem cells—for implantation in a surrogate mother (see “Cloning Effort,” 2000). Their plans to do just that are well under way.

However, in an article titled “The God Game No More” in a July 9/July 16, 2001 special double issue, *U.S. News & World Report* noted that on March 27, 2001, a formal letter from the United States Food and Drug Administration was hand-delivered to Dr. Zavos, informing him that any attempt on his part to clone a human might well place him in violation of FDA regulations regarding experimental medical procedures. In response, Dr. Zavos stated that he and Antinori already have “set up two clandestine labs overseas” (see Boyce and Kaplan, 2001). And, on August 7, 2001, at the National Academy of Sciences Conference on Cloning—just two days before President Bush gave his nationally televised speech on stem-cell research—Zavos and Antinori announced their intention to impregnate as many as 200 women with cloned embryos **by November 2001** (see Stolberg, 2001).

Scientists like Zavos and Antinori are being “egged on” by those who are anxious to see—regardless of the cost in human lives—exactly what might happen when scientists attempt to clone humans. As *Skeptic* editor Michael Shermer went on to lament:

The mass hysteria and moral panic surrounding cloning is nothing more than the historically common rejection of new technologies, coupled with the additional angst produced when medical advances fly too close to religion’s sun.... So that is what it really comes down to: the fear that science is unduly infringing on religion’s turf.

Why not lift the ban on all research into cloning—including humans—and see what happens? Let’s run the social experiment and analyze the data.... In the borderlands between science and pseudoscience, the best method to determine which fuzzy category a claim belongs is to test it. Why not do that here? (2001, pp. 75-77).

Why not? Perhaps Shermer would understand “why not” if he immersed himself in some of the latest results emerging from the laboratories of the scientists who actually are involved in the process of cloning animals on a day-to-day basis. For example, in a study reported in the July 6, 2001 issue of *Science*, researchers found that the techniques themselves were not the cause of the problems they were discovering in their cloned animals. Instead, the difficulties arose from the fact that the actual donor cells (i.e., embryonic stem cells) appeared to be extremely unstable in culture. During their growth and division phases, these special cells began losing important segments of DNA that instruct particular genes to “turn on” or “turn off.” While the effects of these deletions were not visible outwardly, tests in which gene expression was measured showed an entirely different story.

David Humphreys and coworkers used embryonic stem cells to provide the genetic material that was placed into egg cells. The nucleus from these embryonic stem cells was transferred to mice eggs and then placed into surrogate mothers to be carried to term. The researchers found that the DNA in mice born as a result of this procedure exhibited irregular gene expression—in other words, some of their DNA was missing. In order to confirm their suspicions that the technique itself was not at fault, the scientists then implanted other egg cells using stem cells from the same culture. As they suspected, the technique worked flawlessly. It was the stem cells themselves that were unstable. In discussing their results, Humphreys and his colleagues wrote: “Our results indicate that even apparently healthy cloned animals can have gene expression abnormalities that are not severe enough to impede development to birth but that may cause subtle physiological abnormalities which could be difficult to detect” (2001, 293:97). Dr. Humphreys and his colleagues observed that cloning already has

been used to derive live clones in several species including sheep, cattle, goats, pigs, and mice, but **only a few percent of nuclear transfer embryos develop to term. Even those clones that survive to term frequently die** of respiratory and circulatory problems and show increased placental and birth weights, often referred to as “large offspring syndrome” (293:95, emp. added).

This report confirmed what many already suspected—that reproductive cloning not only is inefficient, but also may be extremely unsafe. In an article titled “Don’t Clone Humans!” in the March 30, 2001 issue of *Science*, Rudolf Jaenisch (one of the authors of the Humphreys study on cloned mice), and Ian Wilmut (who cloned Dolly), wrote:

Animal cloning is inefficient and is likely to remain so for the foreseeable future. Cloning results in gestational or neonatal developmental failures. At best, a few percent of the nuclear transfer embryos survive to birth and, of those, many die within the perinatal period. **There is no reason to believe that the outcomes of attempted human cloning will be any different.** ...Newborn clones often display respiratory distress and circulatory problems, the most common causes of neonatal death. Even apparently healthy survivors may suffer from immune dysfunction, or kidney or brain malformation, which can contribute to death later (2001, 291:2552, emp. added).

Jaenisch and Wilmut addressed the claims of Zavos and Antinori specifically, and the possibility of human cloning generally, when they wrote:

We believe attempts to clone human beings at a time when the scientific issues of nuclear cloning have not been clarified **are dangerous and irresponsible.** All the data collected subsequently reinforce this point of view.... If human cloning is attempted, **those embryos that do not die early may live to become abnormal children and adults;** both are troubling outcomes (291:2552, emp. added).

In an August 20/August 27, 2001 special double issue of *U.S. News and World Report*, the magazine’s well-known editor at large, David Gergen, wrote under the title of “Trouble in Paradise”:

It took 277 embryos to make one Dolly, they point out, and that was for a simple sheep. Think how many more will be required to make a human and how many deformed fetuses may result. Will we see mass abortions? Miscarriages? Human suffering? Even a monster in a laboratory?... [I]t is troubling enough that Dolly grazes nearby. If we now turn loose her human cousins, how can we possibly keep nature’s balance? (131[7]:80).

In this controversy, “keeping nature’s balance” apparently is on the minds of a lot of people—scientists and non-scientists alike.

In the same issue of *U.S. News* in which Gergen’s article appeared, the editors also chimed in with an editorial of their own titled “Send in the Clones?,” in which they wrote:

Stem-cell research, cloning, and genetic engineering—the new frontiers of science—are creating a landscape of slippery slopes where politics, religion, science, and hope collide. The pace of discovery is so rapid that we can’t even resolve one ethical debate before another rears its head....

So far, **mainstream scientists have opposed reproductive cloning because it’s just not safe.** Sudden abortions, stillbirths, and gross birth defects are among the seemingly unexplainable and initially undetectable problems that arise (see “Send in the Clones,” 2001, 131[7]:12, emp. added).

Shortly after news of Dolly’s cloning was announced in February 1997, then-President Bill Clinton asked the National Bioethics Advisory Commission to prepare a report for him containing recommendations on human cloning. That report, presented to the President in June 1997, contained six chapters. In chapter six, the Commission listed five distinct categories of recommendations:

1. The Commission concludes that at this time **it is morally unacceptable** for anyone in the public or private sector, whether in a research or clinical setting, **to attempt to create a child using somatic cell nuclear transfer....** The Commission, therefore, recommends the following for immediate action.
 - A continuation of the current moratorium on the use of federal funding in support of any attempt to create a child by somatic cell nuclear transfer.
 - An immediate request to all firms, clinicians, investigators, and professional societies in the private and nonfederally funded sectors to comply voluntarily with the intent of the federal moratorium. Professional and scientific societies should make clear that any attempt to create a child by somatic cell nuclear transfer and implantation into a woman’s body would at this time be an irresponsible, unethical, and unprofessional act.
2. Federal legislation should be enacted to prohibit anyone from attempting, whether in a research or clinical setting, to create a child through somatic cell nuclear transfer.

3. Any regulatory or legislative actions undertaken to effect the foregoing prohibition on creating a child by somatic cell nuclear transfer should be carefully written so as not to interfere with other important scientific research....

4. ...[W]e recommend that the federal government, and all interested and concerned parties, encourage widespread and continuing deliberation on these issues in order to further our understanding of the ethical and social implications of this technology and to enable society to produce appropriate long-term policies regarding this technology should the time come when present concerns about safety have been addressed.

5. Finally...the Commission recommends that Federal departments concerned with science should cooperate in seeking out and supporting opportunities to provide information and education to the public in the area of genetics, and on other developments in the biomedical sciences, especially where these affect important cultural practices, values, and beliefs (see *Cloning Human Beings...*, 1997, pp. 108-110, emp. added).

The report of the National Bioethics Advisory Commission, which was extensive, discussed several “domains” in regard to human cloning, not the least of which was the safety of the procedure itself. As evolutionary geneticist Richard Lewontin observed:

The serious ethical problems raised by the prospect of human cloning lie in the fourth domain considered by the bioethics commission, that of safety. ...It seems pretty obvious that the reason the Scottish laboratory did not announce the existence of Dolly until she was a full-grown sheep is that they were worried that her postnatal development would go awry.... Ninety percent of the loss of the experimental sheep embryos was at the so-called “morula” stage, hardly more than a ball of cells. Of the twenty-nine embryos implanted in maternal uteruses, only one showed up as a fetus after fifty days *in utero*, and that lamb was finally born as Dolly. Suppose we have a high success rate of bringing cloned human embryos to term. What kinds of development abnormalities would be acceptable? Acceptable to whom? (2000, pp. 166,167).

Abnormalities? **What abnormalities?** According to Princeton molecular geneticist Lee Silver, such occurrences very likely would be little more than figments of our overactive imaginations. The same year Dolly's arrival was announced (1997), Silver authored his groundbreaking book, *Remaking Eden: Cloning and Beyond in a Brave New World*, in which—in a brazen attempt to defend human cloning—he wrote (incredibly!): “If safety is judged by the proportion of those lambs born who were in good health [that would be a grand total of **one**—Dolly—BT/BH], then the record is perfect (albeit a rather small sample size)” (p. 103, parenthetical comment in orig.). A small sample size indeed—**one!** Who does Dr. Silver think he is kidding? Were any other “scholar” to make such a ridiculous claim based on a statistical set of one (is there even really such a thing?), he would be ridiculed unmercifully in the halls of science—by his own colleagues! In fact, as two scientists wrote in a letter to *Science* in regard to Dolly, one successful attempt out of 277 “is an anecdote, not a result” (Sgarabella and Zinder, 1997, 279:635). Is it any wonder that most Americans oppose human cloning (see “Send in the Clones,” 131[7]:12), when such irresponsible pronouncements are forthcoming from scientists?

What a difference four years—and statistical sets larger than one—make! As we noted earlier, reproductive experts have cloned at least five mammals. Yet even those scientists directly involved in the research are critical of current methods and their end results. Harry Griffin is assistant director of Scotland's Roslin Institute, where Ian Wilmut successfully cloned Dolly. In an interview on January 30, 2001, he told BBC News Online:

The success rate with animal cloning is about one to two per cent in the published results, and I think lower than that on average. I don't know anyone working in this area who thinks the rate will easily be improved. There are many cases where the cloned animal dies late in pregnancy or soon after birth. **The chances of success are so low it would be irresponsible to encourage people to think there's a real prospect. The risks are too great for the woman, and of course for the child. It would be wholly irresponsible to try to clone a human being, given the present state of the technology** (as quoted in Kirby, 2001, emp. added).

Unfortunately, maverick scientists like Zavos and Antinori are not deterred. Nor are they alone. It appears that there are those “waiting in the wings” for just the right moment to announce their own plans for the cloning of humans. In a disturbing article titled “Today the Sheep...Tomorrow the Shepherd?,” *Newsweek* staff writer Kenneth Woodward remarked: “Science has a way of outdistancing all ethical restraints. **In science, the one rule is that what can be done will be done**” (1997, 129[10]:60, emp. added). That “one rule” is what is known among scientists as the “technological imperative.” And it rules supreme in many areas of science. The famed *Star Trek* mantra—“to boldly go where no one has gone before”—has taken on an entirely new meaning in light of current reproductive technology. Pierre Baldi even went so far as to suggest:

In my judgment, **we do not have much to fear about cloning in the short term, and we have plenty of time to think about its consequences if we begin now.** It will take quite some time and debate before the first laws are passed authorizing human cloning, and **it may take some time to achieve the level of technical proficiency required for its legal practice.** It will take decades for the first human clone to become an adult, and for us to begin to sort out the effects of nature and nurture (2001, p. 145, emp. added).

Baldi did admit, however: “Before human clones are produced, we should ask ourselves whether it is ethical for human beings to precisely determine the genome of another human being” (p. 144). Determining (actually “predetermining” would be a more accurate term) the genome of another human being is indeed no small matter. *Newsweek's* Woodward observed: “Perhaps the message of Dolly is that society should reconsider its casual slide toward assuming mastery over human life. Do we really want to play God?” (129[10]:60).

IS HUMAN CLONING ETHICAL?

The specter of numerous laboratories around the country filled with maimed, malformed, malingering human embryos that grow into “abnormal children and adults” is not exactly the image of cloning that most people envision when they think of cloning. Yet according to those researchers who are on the cutting edge of the technology, that may be exactly what we will see if we tread on this slippery slope in our attempts to “play God.”

In an article summarizing the August 2001 National Academy of Sciences Conference on Cloning in Washington, D.C. for *Time* magazine, Michael Lemonick discussed some of the potential consequences of “playing God” via reproductive cloning.

Most of the scientists who gathered in Washington earlier this month to talk about human cloning agreed that cloning an entire human being—besides being morally questionable—was fraught with technical obstacles. After all, research into animal cloning has already shown that **for every apparent success like Dolly the sheep, there are hundreds of failures, including many badly deformed creatures that were usually miscarried** (2001, 158[8]:56, emp. added).

Having discussed just such horrendous possibilities in his book, *The Impact of the Gene*, it was hardly with a cavalier attitude that science writer Colin Tudge admitted:

But whether we like it or not, the human clone and the designer baby, the reinvented human being, will stay on humanity's agenda for as long as science itself is practiced. With such power before us, we have to ask as a matter of urgency, what is **right** for us to do. Some have suggested that these new technologies raise no “new” ethical issues, a point that largely depends on what is meant by **new**. They certainly raise the ethical ante. After all, we cannot be held morally responsible for events that we cannot control, but we are answerable for those that we do control. In the normal course of events, we cannot control the genetic makeup of our offspring. We do have **some** influence, because we choose our mates carefully, but the process of genetic recombination during the formation of eggs and sperm ensures that the genetic details of our offspring are not ours to specify. But if we clone children, or engineer their genes, then we are **prescribing** their genome. Our responsibility, then, for all that befalls them, far outstrips that of any parent. Noblesse oblige. It is too casual by far to say there are no new issues. We must look deeper (2000, pp. 307-308, emp. in orig.).

Indeed, we **must** “look deeper”—for several reasons. We must force ourselves to realize that once the genie is out of the bottle, we will not be able to put it back. Science never goes backwards. **Never!** In his book, *Designing Babies*, Roger Gosden addressed this point when he wrote:

The march of scientific knowledge pauses from time to time, awaiting the discovery of a new theory, technique, or instrument, **but it never retreats. Its discoveries can never be destroyed** like a canvas that offends or a music score that grates. Hence the fear that an uncomfortable fact discovered today is bound to be applied sooner or later, possibly for ill (1999, p. 17, emp. added).

Medical ethicist Leon Kass of the University of Chicago (the physician selected by President Bush on August 9, 2001 to head the President’s Council on Stem-Cell Research) observed: “We Americans have lived by...the technological imperative—if it can be done, it must be done...” (2000, p. 105, emp. added). Do we honestly believe that we can “clone now, but remedy the consequences later”—and somehow do it with impunity? As long ago as 1967, in an editorial in *Science*, Marshall Nirenberg of the National Institutes of Health cautioned:

Man may be able to program his own cells with synthetic information long before he will be able to assess adequately the long-term consequences of such alterations, long before he will be able to formulate goals, and long before he can resolve the ethical and moral problems which will be raised (as quoted in Walters and Palmer, 1997, p. 141).

Or, as Kass put it: “Here we surely should not be willing to risk everything in the naive hope that, should things go wrong, we

can later set them right” (2000, p. 105). Evolutionist and Nobel laureate George Wald of Harvard decried the fact that

DNA technology faces our society with problems unprecedented not only in the history of science, but of life on the Earth. It places in human hands the capacity to redesign living organisms.It is all too big and is happening too fast. So this, the central problem, remains almost unconsidered. **It presents probably the largest ethical problem that science has ever had to face.** Our morality up to now has been to go ahead without restriction to learn all that we can about nature. Restructuring nature was not part of the bargain. For going ahead in this direction may be not only unwise, but dangerous (1979, pp. 127-128, emp. added).

Any way you slice it, human reproductive cloning is not only unwise and dangerous, but patently unethical as well. Ask any knowledgeable ethicist, Christian or otherwise, and he or she will confirm that two important principles come into play in experimentation on human beings.

Is the Experiment to the Subject’s Benefit?

The first principle is that basic medical ethics requires the experiment be to the subject’s benefit. Even avid cloning proponent Lee Silver was forced to admit:

A basic principle of medical ethics is that doctors should not perform any procedure on human subjects if the

risk of harm is greater than the benefit that might be achieved. In the case of cloning, this principle would oblige physicians to refrain from practicing the technology unless they were sure that the risk of birth defects was no greater than that associated with naturally conceived children (1997, p. 103).

Is the risk greater? In the chapter he authored on “Cloning Human Beings: An Assessment of the Ethical Issues Pro and Con” for the book, *Clones and Clones*, Dan Brock answered that question in a very clear fashion: “**There is no doubt that attempts to clone a human being at the present time would carry unacceptable risks to the clone**” (1998, p. 157). How true! As things stand now, laboratory procedures for cloning humans scarcely would benefit the cloned embryos. Ian Wilmut and his colleagues attempted 277 fusions between donor cells and unfertilized eggs. Only 29 of those fused cells became embryos and were introduced into (13) ewes. Of those 29, only one became pregnant and gave birth to Dolly. What if the same failure rate held true for the cloning of humans? Or, for the sake of argument, suppose that somehow the failure rate could be cut in half (in other words, out of 29 human embryos, “only” 15 died during the process)? Would that then be ethically and morally acceptable? It would not! With human cloning—if the 1-2% success rate of scientists’ efforts today is any indication—the failure rate could be staggering. Producing human embryos—with the full knowledge in advance that many more of them will die than will live—is, to use the words of evolutionist Gunter Stent, “morally and aesthetically completely unacceptable” (as quoted in Howard and Rifkin, 1977, pp. 125-126).

Interestingly, at times atheists and theists alike acknowledge the major thrust of such arguments. Evolutionist Richard Lewontin, for example, admitted:

Of course, the technique will get better, but people are not sheep and there is no way to make cloning work reliably in people except to experiment on people.... Even if the methods could be made eventually to work as well in humans as in sheep, how many human embryos are to be sacrificed, and at what stage of their development? (2000, pp. 165-166).

As long ago as 1975, medical ethicist Paul Ramsey suggested that we cannot even develop the kinds of reproductive technolo-



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gies being discussed here “without conducting unethical experiments upon the unborn who must be the mishaps (the dead and retarded ones) through whom we learn how” (as quoted in Restak, 1975, p. 65, parenthetical item in orig.). Sir John Polkinghorne, in an article on “Cloning and the Moral Imperative,” wrote:

An attempt to use a similar procedure to produce a cloned human person would undoubtedly also require a large number of trials before success was achieved and would involve similar uncertainties about long-term consequences. In contrast to the work that led to the birth of the first IVF baby, the procedures would be the result of radical human manipulation and not simply the facilitating of a natural process. Putting it bluntly, it would inevitably require the production of “experimental human beings.” **This, in itself, is morally unacceptable.** If the profound respect due to an unimplanted embryo requires that experimentation cease at 14 days [as required by British law in Polkinghorne’s home country—BT/BH], how would a much more extended series of experiments *in utero* be ethically justifiable? These procedures might have as their intended end a desirable purpose, such as the birth of a healthy baby who might otherwise suffer from a severe mitochondrial disorder, but the manner in which this had become feasible, through a sequence of experiments of this kind, would have been ethically tainted. The end would no more justify the means than it would, say, in the case of a fetus conceived naturally but with the intention of providing suitable material for the treatment of Parkinsonism in a close relative.... **Not everything that can be done should be done** (1997, pp. 41,42, emp. added).

Leon Kass put it another way: “The good things that men **do** can be made complete only by the things they **refuse to do**” (2000, p. 106, emp. added).

In addition, there is more to this matter than merely “perfecting” the cloning method itself. As a case in point, consider the scenario that evolutionist Mark Ridley presented in his 2001 volume, *The Cooperative Gene*:

But could human cloning ever become widespread: could most, or even all, human reproduction become clonal? At this stage, the Darwinian answer has to be: probably not. We need sex. We may need it to clear our harmful mu-

tations. **A sub-branch of human beings who went in for clonal reproduction would also be signing their progeny up for a mutational meltdown.** They would undergo rapid genetic decay, as mutations accumulated faster than they could be eliminated. I do not know how many generations it would be before every offspring was so loaded with genetic defects that it would be dead; the details would depend on the exact cloning procedure, but cloning could not last long on an evolutionary timescale... **My forecast is that the clone would be sick, and destined to collapse under the burden of its own copying errors** (pp. 253,354, emp. added).

Is it to the clone’s benefit to be born “abnormal” thanks to a “mutational meltdown” that has the potential to make it into a monster with gross birth defects? To ask is to answer. Truth be told, the scientific facts sur-



rounding cloning do not paint a pretty picture. Rather than being viewed as a “miracle of life,” it may well be that cloning should be portrayed instead as a death sentence.

Has the Subject Given “Informed Consent”?

There is a second equally important medical principle involved in the potential cloning of people. In any experiment performed on a human, the subject must know the risks beforehand and give “informed consent.” [Note the important difference here between an “experiment” and a routine medical procedure (such as surgery).] One of the saddest events ever recorded in American medical history provides an excellent case study in this regard. During the forty years between 1932 and 1972, the United States Public Health Service sanctioned the so-called “Tuskegee Experiments” in which 399 poor men from Macon County, Alabama who were known

to have syphilis were studied to determine the effects of this debilitating condition. The government doctors in charge of the study never told the participants that they were infected with this disease (the men were told they had “bad blood,” and that they could be cured if they entered the research program voluntarily). Even though the doctors knew that the disease was fatal if left untreated, and even though antibiotics were available that could have saved the lives of the 399 Alabamians, those men were denied access to such antibiotics. Nor did the scientists involved ever obtain “informed consent” from the men for their experiments, as required by United States law.

Instead, they were patronized, prodded, and poked in what can only be called one of the most shameful medical experiments ever perpetrated on Americans by Americans. As a result, almost all of the men died a cruel, agonizing death—with their tormenters recording every moment for posterity in the name of “scientific research.” What was the rationale offered in later years for the experiments, once the scheme finally was uncovered? Those responsible claimed that they wanted to provide knowledge of the disease in the hope that it might prevent the physical degradation and death so often associated with syphilis victims. And, of course, they wanted to secure information that could be used to slow, or halt, the “moral degradation” associated with contracting a venereal disease in the first place. Laudable goals, to be sure; **but the end results did not justify the means through which they were accomplished!**

Perhaps it was a case such as the Tuskegee experiments that was on the mind of Lori Andrews when she commented in her book, *Future Perfect*:

[U]nder the medical model, little attention is actually paid to informed consent. This is thought to be tolerable since people seek medical services when they already have a health problem and physicians are presumed to be acting in the patient’s best interest by providing services.... Unlike other areas of law, where the standards of behavior are externally imposed, in medicine the standard of care is set by the profession itself.... **Currently, most genetic services are regulated by the medical model. Under it, physicians are the source of information about genetic tests** (2001, pp. 23,24, emp. added).

The sad fact that some researchers within the scientific/medical community today do not adhere to the ethical standard of informed consent is no justification for **not** obeying the law, however. Two wrongs do not make a right.

In the case of human cloning, however, the tiny embryo being produced (and that more often than not is likely to die) could not provide informed consent, even if the researchers involved in the experiments actually decided to obey the law. As Kass noted:

...[A]ny attempt to clone a human being would constitute an unethical experiment upon the resulting child-to-be. As the animal experiments (frog and sheep) indicate, there are grave risks of mishaps and deformities. Moreover, because of what cloning means, **one cannot presume a future cloned child's consent to be a clone, even a healthy one.** Thus, ethically speaking we cannot even get to know whether or not human cloning is feasible (2000, p. 88, emp. added).

Dr. Kass' point is well made. Even if we could perfect the technology (a big "if," to be sure!), that still would not alleviate the problem of informed consent.

At every turn, then, the problem of the ethics of cloning rears its head. Little wonder Rob DeSalle and David Lindley admitted: "We hardly dare to think of the ethical difficulties such achievements would bring in their wake" (1998, p. 104). And yet we **must** think on these matters! As Pierre Baldi correctly observed:

Many bioethics texts share the same conservative punchline: we ought to be extremely careful and proceed very slowly with biotechnology, because we must preserve our notion of humanity and of who we are (2001, p. 136).

Interestingly, President Bush echoed that same phrase—"proceed very slowly"—in his August 9, 2001 speech to the American people on human cloning and stem-cell research (which we will discuss at length in next month's installment). In fact, the feature article in the August 20, 2001 issue of *Time* was titled "We Must Proceed with Great Care" (see Gibbs and Duffy, 2001)—which was a direct quote from the President's televised speech when he said that after many months of deliberation, "I have decided that we must proceed with great care" (Bush, 2001).

President Bush was absolutely correct to urge "great care." As Gina Kolata pointed out in her book, *Clone*: "If we really want to

stop human cloning, it might be argued that **any** forays in this direction are tentative steps down a slippery slope" (1998, p. 234, emp. added). That "slippery slope" has been the topic of much discussion since Dolly's arrival. Roger Gosden observed: "Probably no subject in medical science receives more critical attention from both government and the press than reproductive biology and genetics" (1999, p. 17). And with good reason! As Kass has reminded us:

Changes are now being considered that would improve the very germplasm, the permanent heredity, of these "created" clones. Traits thus made inherent would be potentially transferrable to every succeeding generation. This goes beyond fantasizing about Bionic Man to conjuring up the dream of Designer Man.... **We have here a perfect example of the logic of the slippery slope,** and the slippery way in which it already works in this area... We should allow all cloning research on animals to go forward, **but the only safe trench that we can dig across the slippery slope, I suspect, is to insist on the inviolable distinction between animal and human cloning** (2000, pp. 128,96,103, emp. added).

We could not agree more!

[to be continued]

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ADDRESS SERVICE REQUESTED



“AND ALL THE COUNTRY WEPT WITH A LOUD VOICE”

[The day this issue of *Reason & Revelation* was due to go to our printer, Tuesday, September 11, terrorists attacked the United States. Because of the nature of the attack and the gravity of the situation, at the last moment I elected to replace my scheduled “Note from the Editor” with the comments below in order to address this matter for our readers’ sake.]

It was a sad time for Israel. Absalom, King David’s own son, had mounted a coup against his father. When word reached the king, and he finally realized the futility of remaining in Jerusalem, he marched out of the city toward the brook Kidron with the ragtag band of subjects still faithful to him. As he and his entourage approached the brook, Ittai the Gittite and those loyal to him began to follow after David in order to join him on his pilgrimage. The king implored Ittai to count the cost of such a decision and turn back. But Ittai demurred, and asked that he and those with him be allowed to stay the course in their dedication to their lord. As David, Ittai, and their followers crossed the brook Kidron to leave Jerusalem, the Bible records poignantly: “And all the country wept with a loud voice” (2 Samuel 15:23). Sad times, those.

Sad times, these. On Tuesday, September 11, America found herself under siege by unknown terrorists. Four planes were hijacked, the first of which was crashed deliberately into the north tower of the World Trade Center in New York City. A few moments later, the second was flown premeditatedly into the south tower. The third was slammed intentionally into the Pentagon in Washington, D.C., our national’s capital. The fourth fell to earth in a forested area near Pittsburgh, Pennsylvania. All 266 passengers onboard the four planes perished. Property damage already has been measured in the billions of dollars. The number of innocent people killed, it has been estimated, likely will reach well over 5,000. “**And all the country wept with a loud voice.**”

As I write these words, we, as Americans, do not yet know for certain who our attackers were. Nor do we know why we, specifically, were targeted. Nameless faces have assaulted us for reasons both unknown and unclear. But some things we **do** know. The precious freedoms we hold dear have been attacked. Our unfettered manner of life has been threatened. Our very lives have been placed in peril. And our beloved fellow citizens have been murdered in cold blood. Evil, in what surely must be one of its most incomprehensible forms—the unprovoked, unwarranted slaughter of innocents—has reared its ugly head among us. Amidst its sorrow, America not only weeps with a loud, collective voice, but also asks

through the tears and groanings—**why?** As our televisions and radios have played and replayed the scenarios documenting the sheer horror and immense destruction associated with the attacks, countless witnesses, survivors, or their families have asked such questions as “Why does God allow such things to happen?” and “Where was God when we needed Him?”

It is important, especially now, for all of us—not just Americans, but for people everywhere—to understand three important points. First, **God has not abandoned us!** He loves us dearly (John 3:16), and wants only the best for us (2 Chronicles 7:14; 1 Timothy 2:4). If we, for whatever reason, seem unable to “find God,” we must realize that **it is not God who has moved!** He is forever the same—the One “with whom can be no variation, neither shadow that is cast by turning” (James 1:17). From the moment He created mankind (Genesis 1:26), until the instant each of our souls returns to Him (Ecclesiastes 12:7), He is our God.

Second, **the events of September 11 are not God’s fault.** Because He is love (1 John 4:8), and because love allows freedom of choice, God created us with freedom of choice (see Joshua 24:15; Matthew 5:39-40, et al.). When men abuse that freedom, it is not God’s fault. He is guiltless, and does not bear the blame (1 John 1:5; cf. 3:5). If we suffer when another of our kind misuses his or her freedom of choice, we have no right whatsoever to demand that God somehow remove that freedom of choice, due to the fact that He “is no respecter of persons” (Acts 10:34).

Third, regardless of how powerful or prosperous our great nation may be, let us **never** grow indifferent or lethargic in regard to our responsibilities—individually and collectively—to God, His Word, and His will for us. How many times in the Old Testament did His people abandon Him? And how many times—out of pure, unadulterated love—did He plead with them to return? Let us remember Moses’ words on His behalf: “When thou art in tribulation and all these things are come upon thee, in the latter days thou shalt return to Jehovah thy God, and hearken unto his voice; for Jehovah thy God is a merciful God; he will not fail thee” (Deuteronomy 4:30-31). Let all of us, Americans and non-Americans alike, determine to “return unto Jehovah.”

My staff and I offer our sincerest, most heartfelt condolences to each of our fellow Americans who has suffered so terribly. Please know that you are in our thoughts and prayers daily.

Bert Thompson