FURTHER READING AND RESOURCES

Ronald M. Green, *The Human Embryos Research Debates: Bioethics in the Vortex of Controversy*, Oxford University Press, New York, 2001.

S. Holland et al., *The Human Embryonic Stem Cell Debate*, Bradford/MIT Press, Cambridge, Mass, 2001.

In 1991, the *Kennedy Institute of Ethics Journal* had exchanges between Jesuit Richard McCormick and secular law professor John Robertson on the moral status of embryos in research. See Volume 1. In 2001 and 2002, Volumes 11 and 12 had several articles on the same topic.

CHAPTER 7

Reproductive Cloning: Should We Clone Humans?

On July 3, 1996, the Roslin Institute near Edinburgh, Scotland, brought to birth a lamb named "Dolly" originated by cloning, a feat previously thought impossible. The institute waited seven months, until authorities granted it patents on its cloning processes, to announce this feat on February 24, 1997.

Alarmists then predicted that humans would soon be cloned. Such predictions resonated against 50 years of scary tales about human cloning in science fiction. No wonder 97 percent of people polled had a "yuk" reaction to human cloning.

Since then, cloning has become a big issue in bioethics. President George W. Bush's first prime-time television address to the nation in 2001 indirectly concerned reproductive cloning, which he declared to be wrong, echoing the sentiments of most Americans.

In 2003, a sect called the Raelians claimed they had cloned human babies. However, they produced no babies, no scientists, and no evidence for their claim. Nevertheless, and perhaps because there was no other news for one week around Christmas, their claim received saturation coverage by the world's media.

On March 4, just a few days after the announcement of Dolly, President Clinton asked his bioethics commission to decide whether human cloning should be a federal offense. This National Bioethics Advisory Commission (NBAC) recommended making the creation of a human by cloning a federal crime. In so recommending, it went well beyond the previous ban on federal funding of research on embryos and proposed a new federal intrusion into the reproductive life of Americans.

In 1998, rough-hewn Chicago physicist and former fertility researcher Richard Seed (whose name was no Hollywood caricature) caused a sensation by merely announcing that he wanted to clone his genes to produce a child. His announcement revved up anticloning speeches and caused several state legislatures to ban cloning.

The Science of Cloning

In the 1990s, Danish scientist Steed Willadsen, working at Grenada Genetics in Texas, had originated a cloned lamb embryo by enucleating an egg (i.e., by removing its nucleus) and fusing what was left with the nucleus of a cell from the

genetic ancestor of the sheep they wanted to re-create. In his first three attempts, in other unpublished work, Willadsen had not only produced a live lamb, he had done far better, cloning cells from embryos that had 120 cells, in contrast to the usual eight-celled embryo.[1]

When Ian Wilmut of the Roslin Institute in Scotland heard of Willadsen's work, it drew him into similar work for the next decade. The rest of the world went in a different direction, pursuing basic research in the new field of molecular biology rather than what was thought to be outdated embryology.[2] Wilmut later created the lamb Dolly from differentiated, specialized cells of her adult ancestor.

"Cloning" is an ambiguous term, even in science, as it may refer to molecular cloning, cellular cloning, embryo twinning, and somatic cell nuclear transfer (SCNT). The latter is what occurred in Dolly and what most people care about. It takes the nucleus of an adult cell and implants it in an egg cell where the nucleus has been removed.

A variant of this process called fusion (which was actually done to produce Dolly) puts the donor cells next to an enucleated egg and fuses the two with a tiny electric current. Because the pulse that produces fusion also activates egg development, a blastocyst—an embryo of about 100 cells—starts to develop. In fusion, mitochondria from both the donor and the egg recipient mix, whereas in strict transfer of a nucleus, mitochondria are only present in the enucleated egg.[3]

At a 1997 conference on mammalian cloning, Wilmut stressed that present techniques were inefficient: he started with 277 sheep eggs and got only one live lamb. Nevertheless, his statement has been widely misunderstood, partly because he has emphasized how many eggs he started with and not how many fetuses resulted in live births. The actual statistics were: 277 eggs fused in oviducts with sperm, 247 recovered from oviducts, 29 of which were transferred at the stage of morula or blastocysts, which created 13 pregnancies in lambs, three of which came to birth, and one of which was healthy and lived, Dolly.[4]

Myths about Cloning

Cloning Does Not Reproduce an Existing Person Reproductive cloning recreates the genes of the ancestor, not the ancestor himself. Cloning recreates the genetic base of a person, but a person's identity partly stems from nongenetic sources, such as environmental input into the body (e.g., kind of food and drugs ingested), subjective experiences (peak experiences, character formation), and personal decisions based on free will. None of these nongenetic traits would be recreated by cloning.

Many of the portrayals of reproductive cloning in movies convey falsehoods. A child with the genes of an ancestor would not have any memories of the ancestor, as the character Ripley had in the movie *Alien Resurrection*.

This also means that you can't reproduce yourself. Narcissistic people who think cloning a baby with their genes will do so are mistaken. Cloning reproduces about 99.8 percent of the ancestor's genes (the other 0.2 percent come from mitochondrial genes in the host-egg), but even 0.2 percent difference can be significant. Identical twins have small differences in random inactivation of the X chromosome

in embryonic development and this results in different personalities and traits as adults.

Of course, the main difference is that a resulting child would not have the memories of the adult ancestor. Nor would the child necessarily have the personality, outlook, or drive of the ancestor. These qualities depend in part on early childhood experiences, chosen acts that mold character, schools the child attends, and the people who mentor the adolescent.

If the 69-year-old Richard Seed had originated a child by cloning in 1998, hoping to re-create himself, he would have been disappointed. Since it would take 20 years for the child to grow to adulthood, Seed would likely have been dead by that time. Even if he did live to see the child as an adult, he would likely have been disappointed to see that the child created by cloning, having grown up in a different environment, in a different time, would be a different person from him.

Cloned Humans Would Not Be Drones but Persons A child created by reproductive cloning would need to be gestated by a human female for nine months, and his birth would be like that of any other child. He would have no distinguishing marks on him to indicate his origins. He would feel, sense, think, and hurt like any other human child.

Today, we do not believe that a child's origins affect his status as a person—it does not matter whether your parents were married, of different races, gay or lesbian, or whether you were conceived in a test tube. Children created by cloning would be persons with all the rights of other persons.

Some widely quoted authors such as Leon Kass have questioned this, implying that prejudiced people might treat cloned children as less-than-human. If this were so, it might not be in the best interest of a child to be originated this way.

But notice that the same logic implies that it might not be best to be created as a child of an interracial couple because "other people" might be prejudiced against such marriages and their children. The effect of such reasoning is to strengthen prejudice, not to weaken it, and to give it too much weight in what, after all, is supposed to be *moral* reasoning. The way to combat prejudice is to expose it and to replace it with knowledge and reasoning, not to give in to it.

For this reason, we must be careful when we speak of children originated by cloning. To call them "clones" is to be prejudicial because it connotes bad things about such children and people who created them. Similarly, to imply that children created by cloning would be raised in batches connotes all kinds of bad, silly things, such as seeing them as zombies, as sources of organs for genetic ancestors, and in general, as less than human.

Cloning Would Have No Effect on the Gene Pool One sometimes hears the objection that cloning will decrease the diversity of the human gene pool. Diversity in such a pool is good for the human race because unknown diseases may appear in the future, against which idiosyncratic genes may offer the best defense to the minority of humans who have them. In this way, it is hypothesized that African-Americans with genes for sickle-cell disease escaped early death from malaria in Africa and whites with genes causing cystic fibrosis escaped lethal airborne diseases caused by viruses (cystic fibrosis creates excess mucus in the lungs

and gastrointestinal tract, eventually killing patients but perhaps protecting young people from infection of viruses long enough to reproduce.

Behind this objection is the idea that characteristics of children originated by cloning would not be individually chosen by parents but stamped out, machine-line, in vast, uniform quantities. A variant of the objection is that prospective parents are so easily influenced by a few cultural stereotypes that millions would choose genotypes of famous movie stars, in the same way that names such as "Heather" and "Jennifer" became suddenly popular 20 years ago among white parents.

Even if all the above were true, originating children by cloning would not affect the human gene pool. A few facts explain why. Originating a child by cloning requires in vitro fertilization, which is unsuccessful 75–80 percent of the time and which in over 35 states must be paid for by the prospective parents at nearly $8,000 per attempt. Of the people who use IVF, only a small percentage would consider cloning. So the numbers of children originated by cloning will be tiny.

A little math here goes a long way. Around 2000, the planet held over 6 billion people and by 2010, that number will probably be at 6.5 billion. Even if a million people were originated by cloning, their genes would have little influence on the 6.5 billion, especially because each person will have free will, grow up, probably fall in love with a person not originated by cloning, and create children sexually with mixed genes. There is no reason to think that people originated by cloning will need cloning to reproduce or prefer cloning over sexual reproduction (which is more fun!).

For this reason, it would be difficult to elevate the quality of the human gene pool by either cloning or by any kind of eugenic-parental selection of traits. In the same way, worries about the deterioration of the human gene pool are also misfounded, as the next generation will mix its genes with other genes, resulting in new combinations.

The above reasoning illustrates the *law of regression to the mean* in population genetics. If you have a big population reproducing, for example, 6 billion people, then over time, abnormal values will normalize. The crushing weight of the numbers stabilizes the mean.

When you understand this, you see that the human gene pool is stable. Even a billion superior humans originated by cloning would reproduce with the other five billion normal humans, and within two or three generations, the superior genes would be diluted. But creating a billion humans by cloning is impossible, as it would require five billion successful attempts through IVF at creating babies.

At bottom, worries about effects of cloning on the human gene pool all mistakenly assume mass production of humans from a cookie-cutter mold. But this assumption is no more true for cloning than it was 30 years ago about test tube babies.

Lack of Informed Consent of Children Created by Cloning One sometimes hears that attempting to originate a child by cloning would be an unethical experiment on the resulting child because such a child could not give informed consent to the experiment. But this objection rests on a misconception.

The misconception is not that it would not be an experiment to create a child this way, for that would be true. The misconception is first, the idea that any child

can consent to any experiment before its birth, and second, that to be ethical, such an experiment would require such consent.

Both of these conditions are false. If the second were true, virtually every improvement in the neonatal nursery or pediatric surgery would be unethical. And thousands of experiments have been done on babies without their consent to improve their health and to fix congenital defects. Medical progress depends on them.

It might be countered that such experiments are designed to improve the health of the baby, whereas cloning is not, being merely designed to gratify the ego of narcissistic parents. But that counter begs the usual questions about the bad motives of parents involved in cloning.

Commodification Originating babies by cloning is often held to be making babies into "things" or commodities, not Kantian ends-in-themselves. Critics assume that people create such babies only for specific qualities, and that creation for such reasons might be imitated by thousands of others (*Newsweek* cover story: "Thousands of parents clone Michael Jordan").

As we saw in the previous chapter, such objections forget that prospective parents make similar choices now in pursuing adoption of babies of a certain race, gender, ethnicity, or health status. As we saw, substantial amounts of money change hands to facilitate adoptions. And yet no one considers the babies adopted to be "commodities" or the parents to be bad for paying large fees for adoption.

The objection also makes the usual mistake of assuming bad motives in parents who utilize a new method of conception. This history of reproductive ethics, going back to artificial insemination and amniocentesis, shows that opponents will greet each new option with this objection.

Brave New World Conservative Francis Fukuyama believes that originating humans by cloning will destroy the human essence. He and others cite Aldous Huxley's futuristic novel *Brave New World* as an argument against going in this direction.

But such citation is misguided. *Brave New World* is about the dangers of mass conditioning society through behavioral techniques. Only the beginning example is about assembly-line reproduction of prechosen genotypes (admittedly, this is a powerful scene). Ironically, the main message of *Brave New World* is the danger of the state taking away choice from parents about ways of creating children. Yet opponents of cloning cite this novel to do exactly that!

Because people have been so *conditioned* to reject anything associated with "cloning," such citations have added irony.

Scientists Are Not Frankensteins Dr. Frankenstein, in Mary Shelley's novel of the same name, is the archetype from which scary pictures of scientists are drawn. Arrogant, unfeeling for his creation, working in an isolated lab, seemingly spouseless and child-less, this mad scientist is meant to be inhuman and scary.

Miss Shelley wrote her book to scare people, to make money, and to become famous. She was not a sociologist who did a careful survey of the qualities of

working scientists, nor was she a scientist herself, nor had she ever worked with scientists.

Most scientists are normal, with kids and spouses, who share our fears about runaway technology and dehumanizing medical tools. So let us not impute bad motives to scientists without evidence.

Remember that the scientists who get the most attention from the media—Richard Seed, Panos Zavos, and Raelian Brigitte Boisselier—are not in laboratories working, but constantly working the telephones to make appearances on television and radio. These people seek publicity, not to help infertile couples. They should not be confused with scientists working diligently and ethically in their offices and labs.

ARGUMENTS FOR AND AGAINST HUMAN CLONING

Moral arguments against human reproductive cloning divide into two categories, one that cloning is *intrinsically wrong*, the second that, while not intrinsically wrong, it is *indirectly wrong* because of undesirable things associated with it. This chapter starts with arguments of the first kind.

As said, these arguments are *moral* ones, not *legal* ones. A different kind of argument about reproductive cloning has occurred in the United States, where legislators have made attempts at reproductive cloning a federal crime. The Human Cloning Prohibition Act passed the House of Representatives in 2001 but did not pass the U.S. Senate in 2002.

The legal argument against this bill is that the Bill of Rights or U.S. Constitution does not give Congress the right to make laws about how Americans originate children, choose not to originate children (contraception), or choose to stop children from growing inside them (abortion). While states may do so as a way of regulating medical practice and of protecting children, this is not a power reserved for the federal government.

By 2006, 13 states passed laws making attempts at reproductive cloning a crime, including Arkansas, California, Connecticut, Indiana, Iowa, Maryland, Massachusetts, Michigan, New Jersey, North Dakota, Rhode Island, South Dakota, and Virginia.[5]

DIRECT ARGUMENTS AGAINST HUMAN CLONING

Against the Will of God

Many clergy believe that originating children by cloning is not God's will. God ordained in Genesis that humans should reproduce as did Adam and Eve, man and woman begetting children, and that is God's plan for humanity. To deviate from the plan is wrong. Just as gay men and lesbians were not meant in this plan to have children, so children were not meant to be created asexually.

Notice that this argument is an inference about God's will. Nowhere in any scripture does it say that medical science should not use reproductive cloning to produce children. Notice too that most advances in the history of medicine have been greeted by the same argument that a change is against God's will.

The Right to a Unique Genetic Identity

With Dolly's birth, the possibility emerged of cloning a human baby. Various people began to assert that what was wrong with cloning a human baby from a genetic ancestor's cells was that it would violate the right of each person to a "unique genetic identity." Some theologians at the Vatican made this claim (although they had never made it before Dolly's birth).

An initial problem about this argument concern twins. Since so-called "identical" twins share 99.9 percent of their genes, is their right to a unique identity violated by being a twin? Certain techniques of assisted reproduction, such as implanting many embryos, drastically increase the likelihood of such twins. Are they wrong?

A bigger problem with this objection is the assumption that one's genes are one's identity. This reductionist line of thinking in modern genetics lies behind similar objections that a child created by cloning would not have a soul because it shared the same genes as the ancestor. Both objections assume that genes make the person, the self, the identity, and yet we know that is incorrect because environment also contributes to personhood (and possibly, so does free choice).

Unnatural and Perverse

Many people also wonder about the motives behind cloning. They ask, why would anyone want to originate a child by cloning? Why not use the fun method of sex? If a couple is unable to have a child through sex, why not adopt?

Sexual reproduction is natural. Cloning, or asexual reproduction, is unnatural. What is good for plants or animals should not be used for humans.

Something is wrong with parents who want to clone a child. They are either narcissistic or so desperate—after all other methods of having children have failed—that they will subject their future child to a perverted experiment in which his personhood will be at risk when he later learns that he is "just a clone."

In reply, it should be noted that this objection begs a lot of questions. First it assumes that what is primitive or natural is always best. That is certainly not true for a man and woman who are naturally infertile. Second, it assumes that the new way of making babies is perverse and therefore wrong, a charge that created many other new ways of making babies in the past. Finally, it assumes bad motives on the part of would-be parents.

The Right to an Open Future

Critics claim that parents choose a certain genotype, say, athlete Michael Jordan's or actor Brad Pitt's, for a reason and with certain expectations. After their investment in in vitro fertilization, they would expect the resulting child to have qualities similar to Jordan or Pitt. They would expect the child to become rich and famous through being a professional basketball player or a movie star, respectively.

The future should be open to every child. It is wrong for tennis mothers to impose their wills on their children in their hell-bent determination to make them into tennis stars; it is wrong for East Asian parents to push their children into medical careers from an early age; and it is wrong for soccer dads and Little League coaches to push their children into athleticism.

Why is this so? The heart of the objection about a closed future lies in explaining this answer. At bottom is the premise that parents should not have children to fulfill their own needs, desires, or fantasies, but for the good of the child. In this sense, parenting should be Kantian, not egotistic.

It is certainly not in every child's best interest to have a preconceived career foisted on him or her by parents regardless of that child's abilities and, perhaps more important, their own free decisions. More than one child has felt the agony of being pushed into a Procrustean bed where he or she does not fit, while desperately trying to gain the love and respect of their parents, who only define success as fulfilling unrealistic expectations.

If parents create children expecting specific traits (basketball skills, acting talent), the objection continues, then children can be damaged psychologically when they cannot, or choose not to, fulfill such expectations.

This argument lies behind the widely heard objection about "designer babies," i.e., that it is wrong for parents to try to create children with blue eyes and blonde hair and with a strong interest in music and tennis. Instead, parents should accept whatever God gives them as a gift.

The most dangerous idea of all is that parents should be free to reject, or not love, babies who lack the qualities they want. Already a dangerous tendency has started among some parents to not aggressively treat impaired babies suffering from genetic diseases at birth, followed by equally dangerous practices of death-by-abortion after sonogram after it's been determined that it's a female fetus. If we add to this the possibility of using preimplantation diagnosis during in vitro fertilization to not implant any embryo with cystic fibrosis or Down's syndrome, we are already halfway to the bad place of parents rejecting children in the nursery when they emerge with the wrong genes.

The whole point of this reductio is to challenge the premise that parents should be able to accept or reject babies based on qualities they have or lack. That is to be denied. Since it is to be denied, any practice that would further this is also to be denied, such as the practice of trying to create children with certain specific qualities.

INDIRECT ARGUMENTS AGAINST HUMAN CLONING

Abnormalities

At present, a high rate of abnormalities plagues efforts to create primates by somatic cell nuclear transfer. Any such conception of a human baby by cloning would be an experiment on a child, and no such experiment is justified without a compensating benefit for the child. Such a benefit does not yet exist. As such, attempts to create a child by cloning the cells of a human ancestor and gestating it to birth are wrong.

Indeed, because a child is likely to be born with some genetic defect, conceiving a child from cloning might be a form of child abuse. If the motives of the parent were bad, then deliberately creating a child who was likely to be genetically defective would be like deliberately choosing to implant an embryo with cystic fibrosis rather than a healthy one.

Notice that this objection depends on the existing state of scientific knowledge. If scientists learn to originate baboons and chimpanzees by cloning without defects and learn how to originate all other mammals safely by cloning, then the chances of a defective cloned baby would drop drastically and the force of this objection would correspondingly diminish.

Notice that when we discuss abnormalities, we need a baseline for comparison. Over 50 percent of embryos created sexually, half of which are chromosomally abnormal, do not implant successfully in the human uterus and are lost. About 2 percent of live-born babies have some genetic defect. Millions of babies are born after the mother smoked or drank during their gestation, yet we do not criminalize such smoking and drinking during pregnancy. (Perhaps we should, but why should we focus on the sensationalistic, remote cases of cloning and ignore obvious harm to babies around us?)

Deep Inequality

Some people, through no merit of their own, start out life much better than others. Some children get two parents, four grandparents, lots of gifts at holidays and birthdays, special pre school and after-school tutoring, and the best private schools and universities. It seems unfair that some get so much but others, so little.

Over the last centuries, civilized societies have mitigated some of the more extreme effects of this *environmental inequality:* estate taxes have reduced how much can be inherited from parents, income taxes redistribute money from high earners to those on disability and public assistance, and expanding economies have created new opportunities for hard work and talent to get ahead.

Even so, the gap between rich and poor is astonishing, having widened over the last decade. Given that gap, reproductive cloning could start a new kind of *biological inequality*, much deeper than our existing, environmental inequality. Because reproductive cloning would normally involve a conscious choice to clone the genome of one person rather than another, it is likely that families would choose genomes with good qualities. If cloning could be done successfully, such families could create strong, clever, talented, energetic dynasties that outstripped normal humans. It would be a biological case of "the rich get richer, the poor get poorer." Princeton biologist Lee Silver calls the results the "GenRich" and the "Normals."[6]

This is something new in human evolution. Sexual reproduction randomly exchanges genetic material, and because of regression to the mean, makes sure that the great genetic norm of human nature never rises or falls too much. But in a single swoop, particular families single-mindedly devoted to raising their genetic stature could biologically out-distance normal humans over a few generations.

As such, reproductive cloning poses a grave new danger to social justice. Moreover, because this danger is "written into biology," it would be much harder

to undo. People without superior genes would find it much harder to compete against such superior people, even when the competition was completely fair.

But is this the way we want the advanced countries of the world to go? Toward a deeply stratified society that divides into Superiors, whose genotypes were chosen by committed families bent on superiority, and Normals, whose genotypes were randomly assigned by the spin of the genetic roulette ball in sexual reproduction?

DIRECT ARGUMENTS FOR HUMAN CLONING

Good of the Child

Almost all ordinary discussions of cloning beg two important questions: they assume bad motives on the part of parents or scientists involved in creating a child by cloning, and they assume the child would be harmed by knowing he was created this way.

We can see just how much is begged when we counter these assumptions. First, a child created through cloning would know that he was wanted by his parents. After all, creation of such a child would require in vitro fertilization, which at best is successful only 25 percent of the time. Thus, prospective parents probably would have to try several times to create the baby this way, and pay for their efforts.

In contrast, all that many people know about the wishes of their parents is that their parents had sex and did not abort. They have no clear evidence that their birth was planned. This fact especially applies to children created before *Griswold* v. *Connecticut* in 1965 made it legal for physicians to prescribe contraceptives.

To give this argument some play, assume both that technical difficulties are overcome about reproductive cloning and that children produced this way are safe. Besides knowing he or she was wanted, is there anything about being originated this way that could be in the interests of a child?

Well, for one thing, few parents would knowingly recreate the genotype of an adult with a congenital disease. In so far as possible, parents would choose children who would be healthy.

This in itself will be good for the child. Placing aside for the moment worries about eugenics, it is hard to ignore the good of a life where one is not constantly challenged by physical or mental disabilities.

Next, consider that certain traits might be genetically based. We already know that looks and physique are, because we see resemblances in a family. Suppose, too, that intelligence, wit, temperament, sociability, verbal ability, mathematical ability, and analytical ability are partly genetically based. To give the argument more rope, suppose that parents could choose children with some of these traits. Would doing so be good for the child?

It is hard to see why not. Although it may not be politically correct to say it, all other things being equal, it is better to live life as a beautiful, smart, healthy person than the reverse, and it is hard to see why such a life is not in the interests of the person created.

Of course, opponents will say that such a person has been created as a purchased "commodity" and is subject to the unrealistic expectations of the parent. We will consider the objection about expectations below, but for now, notice that this general line of objections applies to any service that parents buy for present children with the same goals in mind, such as sending children to elite private schools. Yet no one considers the latter to be bad for the children.

Finally, we should notice that there is a dilemma that proponents of reproductive cloning encounter in which either way, they lose. If cloning is unsafe, then it hurts the child, and therefore it's wrong to do. If cloning is safe, then it improves the child and is eugenic, and therefore wrong to do. Obviously, trapped in this false dilemma, proponents of cloning can never win.

At bottom, what may scare opponents of reproductive cloning the most is the possibility that it will work, be safe, and be in the best interests of the children created. Then some children will have more, biologically, than others, and some families may create biological dynasties. Be that as it may, these are not objections about the intrinsic evil of cloning, but indirect ones, focusing on harm to equality (and which we consider below).

Only Way to Have One's Own Baby

One of the main reasons to produce a child is to have a child with one's own genes. Whether it's to have one's family line continue or to have "a bit of me going into the future," no one questions the soundness of this parental motive.

Now in some rare cases, asexual reproduction will be the only method by which a parent can have a genetic connection to a resulting child. Men who are azoospermatic (producing no sperm) or women whose eggs are too old to conceive often still want a child who is genetically related. Reproductive cloning would allow each parent to have a child (assuming two children) with a strong (99.9 percent) genetic connection to the respective parent.

Although men with low sperm counts could reproduce sexually through intracyptoplasmic sperm injection (ICSI) into a donated egg, there is no option for a man who lacks sperm and a woman who lacks good eggs and who also want a genetic connection to a child. For either parent, the only route is the asexual one of using a cell from a nucleus of a differential cell, and using the genes inside it via cloning to create a human embryo.

The combination of two forces strengthens this argument in subtle ways. First, as they pursue careers, many women delay age of their first pregnancy, and when they marry so late that they cannot conceive, they are disappointed. At age 42, less than 10 percent of women carry healthy eggs; over 90 percent at this age will fail to bear a child with their own egg. Whatever child they adopt or create with donor eggs will have no genetic connection to them.

Second, intellectuals, bureaucrats, and politicians often underestimate the force of the urge to be genetically connected to a child. When government and private insurance refused to pay for in vitro fertilization in the late 1970s, everyone thought that few parents would pay cash for the experimental procedures, much less that struggling college professors with little money would forsake cars and a

house in attempts to have a genetically related baby. But they did, and a $3 billion industry was born.

Hence, the millions of couples with women in their 40s who are trying to conceive a child, and who strongly desire a genetic connection to a child or two, will be the prime movers in the quest to originate children by cloning. Hence, this argument will appeal to more people, and for different reasons, than might have been thought at first.

Stronger Genetic Connection

A child created by cloning would have *all* the parent's genes, not just half, right? So he or she would have not the usual 50 percent genetic connection to a parent, but nearly 100 percent. But if half a genetic connection is good, why is double not also good?

See this as an onus of proof argument. Since people and courts assume in public policy that a biological connection makes for a bond between parent and child, why would a stronger bond not be just as good? Whatever it is that makes genetic bonds good for children, is a stronger bond not also good? If not, why? If it's just the novelty of a stronger bond, that is not an argument against the bond, just a new item for empirical investigation.

Do our law and courts see the genetic connection this way? Indeed they do. In a dozen cases around the country, a baby who was adopted and who spent several years with an adopted family was returned to a parent with whom he shared a genetic connection after one of many disputes arose. The point here is not to judge the merits of the final resolution of custody of the child, but to emphasize how much weight the law puts on binding a parent to a child through shared genes.

In another context, countless talk shows feature unmarried women who have had sexual relations with more than one man, each of whom could be the father of the child. On these shows and often in life, the men say, "If it's mine, I'll support the child." And the law agrees, assigning paternity and requirements of child-support if a DNA test identifies a particular man as the father. All of these cases point to the power we assume of the genetic connection to the child.

But those are sexual connections, where only half a parent's genes are bequeathed to a child. Imagine a total, 100 percent genetic connection. Would that not bind males to sons in an incredibly strong way? Couldn't that be a good thing for some sons, to have a father so tightly bound to him? Or for a girl, to have a mother so tightly bound?

INDIRECT ARGUMENTS FOR HUMAN CLONING

Closed Future?

Opponents argue that children created by cloning will have a closed future because parents will expect, say, tennis stars or professional basketball players. Explaining why that is false gives some important insights into who people created by cloning will be.

First, any adult created by cloning will have free will. Too often in discussions about nature versus nurture, or genetics, people talk as if college students and adults are not responsible for their sexual choices, health behavior, grades, choice of mates, and choice of careers. No parent or script can negate free will or take it away.

Perhaps one reason so many people forget about free will when it comes to reproductive cloning is that, in the back of their minds, the myth from science fiction of clones-as-zombie still operates. When a person created by cloning is thought of as a drone or zombie, it is easy to forget about free will. Indeed, the word "clones" (as in "an army of escaping clones") seems to denote beings with little free will.

Second, many parents have expectations of children, even before birth. But most parents love their children and realize that they cannot go against a child's unfolding nature or desires. No matter how much a parent might want his child to become a physician, if the child hates science, the parent's wish is not going to come true. Most parents understand the wisdom of not subjecting their children to unrealistic expectations. So, too, would parents of children from cloning.

Opponents would retort that parents using cloning will be a special subset of parents, much more likely to impose their expectations on resulting children. Even if this is so, what should we make of it? Notice that it isn't always bad for parents to have high expectations of children. Too many parents have no expectations of their children. Having expectations per se is not necessarily a bad thing.

The best retort to this objection is that it assumes bad motives on the part of parents. Why should we assume this? Why shouldn't the onus of proof be on those who want to see such parents as bad?

If originating humans by cloning becomes safe, we will be in for some surprises. Suppose a child is created from the genes of a girl who was an all-state champion in the breast stroke and who had ability in math, scoring in the top 1 percent of standardized tests and excelling in AP math classes in high school.

What is often overlooked is the role of supportive parents in such achievements. Now suppose that the child cloned never learns to swim and is never exposed to math, and doesn't develop these abilities while she is young enough to. In that case, we will learn, perhaps painfully, that parents of children cloned for certain abilities cannot just sit back and wait for the abilities to unfold, but will need to be just as involved as the ancestor's parents. If they are not, it will be easy to see where the blame should go.

Liberty

Those wishing to curtail reproductive cloning because it might increase social inequality need to put their cards on the table and not hide behind subterfuge. They rarely say exactly what they want to do and that is to decrease the liberty of the average person to have children and to create a family.

Now the liberty to create children and a family is not absolute and may be outweighed by a much greater social good. But in the rest of our lives, we prize liberty highly, especially when it comes to creating families and what goes on inside them.

In most areas of our personal lives, we are not willing to curtail our personal liberty to create more social-political-economic equality. For example, we could make private schools illegal and require all children to attend public schools. This would get the best parents involved in PTAs and community boards, which in turn would raise the level of all public schools, thereby helping equality. In the South, where private academies continue as the vestiges of racially segregated schools, and where elite preparatory schools create a class of highly privileged students, equality is not furthered by giving the best students the most resources.

But few people favor mandatory public schools because it would take away freedom from parents about how and where their children are educated. It is for this reason that some people hate busing, because it forces some children to be bused across the city in the name of equality.

The point is not about busing and public education but about how it is easy to pick on reproductive cloning, sacrificing it to equality, because so few people want to exercise this liberty. But the principle is the same: sacrifice liberty for equality. What justifies sacrifice in one area of reproductive life may be extended to another. For example, if only well-off people can afford in vitro fertilization, shouldn't it be banned too?

A Rawlsian Argument for Cloning and Choice

A surprising number of people are against any attempt to improve the genetic qualities of the human race, labeling such attempts eugenic (and hence, wrong). But one argument of the late philosopher John Rawls may counter this sentiment.

Justice, according to Rawls, applies not to acts between individuals but to the basic structure of society. Rawls argues famously in *A Theory of Justice* that the principles of justice that apply to the basic structure would be chosen in a hypothetical social contract where parties choose under a "veil of ignorance" about their position in society when the veil rises. Now consider the following passage from Rawls:

> I have assumed so far that the distribution of natural assets is a fact of nature and that no attempt is made to change it, or even to take it into account. But to some extent this distribution is bound to be affected by the social system. . . . [I]t is also in the interest of each to have greater natural assets. This enables him to pursue a preferred plan of life. In the original position, then, the parties want to insure for their descendants the best genetic endowment (assuming their own to be fixed). The pursuit of reasonable policies in this regard is something that earlier generations owe to later ones, this being a question that arises between generations. Thus over time a society is to take steps to preserve the general level of natural abilities and to prevent the diffusion of serious defects. These measures are to be guided by principles that the parties would be willing to consent to for the sake of their successors. I mention this speculative and difficult matter to indicate once again the manner in which the difference principle is likely to transform problems of social justice. We might conjecture that in the long run, if there is an upper bound on ability, we would eventually reach a society with the greatest equal liberty the members of which enjoy the greatest equal talent.[7]

To the argument that we should not attempt to improve the human race, Rawls replies: if we were in the social contract—taking the long view of millions

of people over many generations—and when the veil lifted, we did not know which generation we would inhabit, would we choose not to make the later generations as genetically talented as possible, compatible with the equal liberty of each to procreate in preceding generations?

It cannot be stressed too much that Rawlsian principles forbid state coercion to improve genetic inheritance of future generations. For Rawls the first principle of civilized life is protection of our basic civil liberties. Any attempt to impose a procreative program on us violates such liberties. Equally, when the state says we cannot reproduce in certain ways, it also violates our liberties.

Under the veil of ignorance, it is in the interest of future children to allow our parents to create each of us with as much natural talent as possible, with the best genes, and with the best chance at a long, healthy life. One could even argue, although this is controversial, that under this intragenerational, Rawlsian theory of justice, people are not just *permitted* to improve the genes of future children, but are *obligated* to do so. Why? Because it is wrong to choose lives for future people that makes them much worse off than they otherwise could have lived.

Politicization of Facts about Cloning

Feminists have noted that gender bias reflects how scientists see the facts: women and men approach a context with different interests and backgrounds, and as such, filter data differently in generating facts.

Worldviews certainly affect how people see the facts. Creationists famously dispute the idea that humans evolved over millions of years by evolving from a chimp-like ancestor. Others dispute the age of the earth and the molecular origins of life from a molecular, Godless soup.

There are many other controversial areas of science where facts about certain topics generate a lot of heat, especially anything to do with sex (homosexuality, lesbianism, or transgender issues). Assisted reproduction and parenting are also hot-button topics.

As a general rule, the more emotion swirls around a topic, the more politicized facts about it are. Reproductive cloning is certainly an emotional topic, so we would predict (and find) that even the most respected scientists often run with their passions when writing about cloning.

It is often easy to emphasize that the glass is half-empty when it's also half-full. You can emphasize that Ian Wilmut started with 277 eggs to get one lamb, or you can emphasize that he brought three cloned lambs (one live, named Dolly) to birth from 13 fetuses from 29 implanted embryos. You can emphasize that Dolly has arthritis and imply that it's from her unique origins, or you can test a thousand lambs of similar age created sexually and describe how many also have arthritis.

Links between Embryonic and Reproductive Cloning

Research on human embryos creates fear in some people of slippery slopes. Leon Kass made such fears explicit in an article that appeared just before the announcement of the recommendations of the National Bioethics Advisory Commission. "And yet, as a matter of policy and prudence, any opponent of the manufacture

of cloned humans must, I think, in the end oppose also the creating of cloned human embryos."[8]

Because he fears that allowing cloning of human embryos will inevitably lead to implantation of a human embryo originated by cloning, he wants to test physicians and scientists who favor lifting the ban on embryo research by making them endorse "an absolute and effective ban on all attempts to implant into a uterus a cloned human embryo (cloned from an adult) to produce a living child."

To the criticism that the techniques of human asexual reproduction are not that complicated and that someone in the world will eventually originate a living child by cloning, Kass would put the onus of proof on those who would permit the "horror" of such origination: "Perhaps such a ban will prove ineffective; perhaps it will eventually be shown to have been a mistake. But it would at least place the burden of practical proof where it belongs: on the proponents of this horror."

If it is true that embryonic cloning cannot be divorced from reproductive cloning, then other things also follow. For one thing, if reproductive cloning is not bad, then neither is embryonic cloning. If reproductive cloning is not intrinsically bad, but only bad because of abnormal results, then we should study how to prevent abnormalities by funding research in embryonic cloning.

In other words, the argument above says that because reproductive cloning is evil, we shouldn't fund anything that would help us do it. But if that is false and reproductive cloning is just a tool—just another way to make a baby and help start a family—then we should investigate all ways to create such a tool.

Not funding research on cloned embryos, or on ways to prevent abnormalities in reproductive cloning in primates, seems perverse. If abnormalities are the major reason for prohibiting reproductive cloning, then surely research to prevent them is justified. But if the real objection is the assumption of the intrinsic evil of reproductive cloning, then we should dispense with the cover of arguing about abnormalities and get to the real issue.

Conclusions: The Future

Reproductive cloning will not go away, especially because it will be difficult to police every top scientist in every corner of the world. (Remember: the techniques involved do not require cyclotrons or great financial investment and might be done by scientists who leave North America to pursue their vision, say, in Bangalore, India.)

Whatever happens in the future, the world will undoubtedly overreact to the nature of the first human baby created by cloning. If the baby is abnormal, in whatever way, the world will rush to make cloning illegal. If the baby is normal, by all apparent means, then much of the hysteria about reproductive cloning will die down, just as it did in 1978 after the birth of Louise Brown.

If babies created by cloning develop into normal children, then the argument will shift to possible dangers to children from cloning, and using cloning might be considered more like drinking while pregnant: bad, but not completely evil.

There is also another possibility that could change the world: Children created by cloning could be adorable, bright, healthy, and lovable, and hence become children that everyone wants. Critics such as Francis Fukuyama will say that such a possibility would change "who we are" and our human essence,[9] but others would see it as a happy fact, a blessing to such children and their families, and an area which should be off-limits to federal intrusion.

FURTHER READING AND RESOURCES

Gregory Pence, *Who's Afraid of Human Cloning?* Lanham, Md.: Rowman & Littlefield, 1998.

Gregory Pence, *Cloning After Dolly: Who's Still Afraid of Human Cloning?* Lanham, Md.: Rowman & Littlefield, 2004.

Human Cloning Foundation, www.humancloning.org.

Francis Fukuyama, *Our Posthuman Future*, New York: Farrar Straus & Giroux, 2002.

Leon Kass, *Human Cloning and Human Dignity: The Report of the President's Council on Bioethics*, New York: Public Affairs Press, 2002.

Classic Cases in Medical Ethics

Accounts of the Cases and Issues that Define Medical Ethics

FIFTH EDITION

Gregory E. Pence
Professor of Philosophy
School of Medicine and Department of Philosophy
University of Alabama at Birmingham

Boston Burr Ridge, IL Dubuque, IA Madison, WI New York
San Francisco St. Louis Bangkok Bogotá Caracas Kuala Lumpur
Lisbon London Madrid Mexico City Milan Montreal New Delhi
Santiago Seoul Singapore Sydney Taipei Toronto

A McGraw-Hill Company

Mc Graw Hill **Higher Education**

CLASSIC CASES IN MEDICAL ETHICS: ACCOUNTS OF THE CASES THAT SHAPED AND DEFINE MEDICAL ETHICS

This book is printed on acid-free paper.

2 3 4 5 6 7 8 9 0 DOC / DOC 0 9 8

ISBN: 978-0-07-353573-9
MHID: 0-07-353573-7

Editor-in-chief: *Emily Barrosse*
Publisher: *Lisa Moore*
Senior sponsoring editor: *Mark Georgiev*
Development editor: *Marley Magaziner*
Executive marketing manager: *Pamela S. Cooper*
Production editors: *Melissa Williams and Jill Eccher*
Manuscript editor: *Dale Boroviak*
Senior production Supervisor: *Rich DeVitto*
Senior designer: *Violeta Diaz*
Cover design: *Jenny El-Shamy*
Typeface: *10/12 Palatino*
Compositor: *International Typesetting and Composition*
Printer: *R. R. Donnelley & Sons*

Library of Congress Cataloging-in-Publication Data

Pence, Gregory E.
Classic cases in medical ethics : accounts of the cases that have shaped and define medical ethics/Gregory Pence.—5th ed.
p. ; cm.
Includes bibliographical references and index.
ISBN-13: 978-0-07-353573-9 (alk. paper)
ISBN-10: 0-07-353573-7 (alk. paper)
1. Medical ethics—Case studies. I. Title
[DNLM: 1. Bioethical Issues—United States. 2. Ethics, Medical—history—United States. 3. Ethics, Clinical—history—United States. 4. History, 20th Century—United States. 5. Patient Rights—legislation & jurisprudence—United States. 6. Social Justice—ethics—United States.
W 50 P397c 2008]
R724.P36 2008
174'.2—dc22 2007012849

www.mhhe.com

Preface

I first started writing this book for my students 20 years ago when I had already been teaching the emerging field of bioethics for 10 years. I wrote this book for them because existing texts failed to convey the excitement of real cases in bioethics. In this fifth edition, I tried to keep the good parts of past editions ("If it's not broke, don't fix it") and to add to, or improve, them.

Every reviewer used some chapters and not others, so it was difficult to cut any chapter. I decided to edit every chapter, sometimes reducing the number of words by a third, while retaining the essence of each. In addition, I added relevant cases and new issues to each chapter.

Like previous editions, this edition was tested on my undergraduates and medical students during 2006. As in the past, my students freely told me of mistakes and biases, improving the book.

If we date the start of modern bioethics to the 1962 God Committee, we're almost at half a century of bioethics. Professors today must both teach about new issues (face transplants) while showing how they build on previous cases (heart and hand transplants). And sometimes one issue ties them together: a desire to be first in surgery.

Personally, I believe that knowing about real cases and how they were resolved is real education in ethics for people who will one day make medical decisions. Like the spreading ripples of a stone in a pond, more and more cases build up spheres of knowledge that are as close as we can teach to what Aristotle called *phronesis* or practical wisdom.

As always, I would like to hear your comments and can be reached at my email address: pence@uab.edu.

Gregory E. Pence
pence@uab.edu