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Well, Hello Dolly - The Advent of Cloning Legislation and Its Constitutional Implications

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WELL, HELLO DOLLY! THE ADVENT OF CLONING LEGISLATION AND ITS CONSTITUTIONAL IMPLICATIONS

Kimberly M. Jackson*

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I. INTRODUCTION

*I*t is not enough that you should understand about applied science in order that your work may increase man's blessings. Concern for the man himself and his fate must always form the chief interest of all technical endeavors.¹

What is it about cloning that alternately excites and frightens people? In February of 1997, scientists in Scotland successfully cloned the first mammal, a sheep named "Dolly." The abrupt arrival of "the clone age" has caused ethicists, lawyers, theologians, and scientists to scramble for ethical and legal footholds in an area previously only dreamed of in science fiction novels and movies.²

But how much does the general populace really know about cloning? Turning on the television, one sees commercials and made-for-television movies capitalizing on society's fascination with an area it knows nothing about. In fact, the resulting legal and ethical confusion surrounding Dolly indicates that "experts," too, are having to deal with issues heretofore considered to reside on the distant horizon.

"Bioethics' encompasses legal, medical, and philosophical issues concerning technology's impact on, and possible control over, the human body, mind, and quality of life."³ There are few among us who would choose to do without the advances scientific research and development have added to our quality of life. Whether found in new technologies in the kitchen or the hospital, scientific research has allowed humans to propose cures for transportation and agricultural problems, diseases, and environmental pollution. However, as technology has been used in areas previously reserved for the realms of nature or religion, ethical issues and concerns have increasingly consumed the thoughts of world leaders, scientists, and theologians.

Science and ethics continuously interact. A scientist's ethics and values shape and control how and why he participates in scientific research. In addition, each new scientific discovery creates moral dilemmas that society must deal with, particularly when scientific advancement involves the

1. *Ethics and Theology: A Continuation of the National Discussion on Human Cloning: Hearing Before the Subcomm. on Public Health and Labor of the Senate Comm. on Labor and Human Resources*, 105th Cong. 123 (1997) (remarks by Sen. Bill Frist quoting Albert Einstein).

2. See *The Clone Age*, 83 A.B.A. J., July 1997, at 68.

3. Donald G. Casswell, *Bioethics and the Law: Medical, Socio-Legal and Philosophical Directions for a Brave New World*, 35 JURIMETRICS J. 479, 479-80 (1995) (reviewing GEORGE P. SMITH, II, *BIOETHICS AND THE LAW: MEDICAL, SOCIO-LEGAL AND PHILOSOPHICAL DIRECTIONS FOR A BRAVE NEW WORLD* (1993)).

power to manipulate and create human life. It falls to the law to carve out ethical solutions to these moral dilemmas. But in doing so, the law needs to balance the competing goals of science and ethics in such a way as to promote the positive benefits of scientific inquiry with the ethical restrictions that society deems necessary to promote safety and protection.

The set of values and ordering of commitments to which the scientist ascribes influences not only the research objective he seeks but also the results he can recognize. Science is descriptive and attempts to resolve the question: What is? Ethics is prescriptive and attempts to resolve the question: What ought to be? Paradoxically, the law is charged with structuring a standard for present behavior and simultaneously remains a step behind science in a reaction capacity.⁴

The debate over cloning pits people who believe that government should not regulate scientific inquiry against people who feel that government has a moral duty to place limits on scientific research.⁵ This latter group often cites natural law reasons as to why scientists should not be involved in scientific research like cloning. In addition, if the government allows cloning to continue, how will it regulate who gets cloned and for what reason?

This Comment addresses the ethical considerations and legal ramifications of cloning human embryos. Part II addresses Dolly's impact on biomedical research in America. Parts III and IV address the current passing of legislation banning human embryo cloning and research.

Part V addresses the legal ramifications of anti-cloning legislation. This discussion assumes that human cloning technology has been completely banned; thus, the discussion addresses potential constitutional challenges to anti-cloning legislation. Part VI discusses the potential benefits of cloning research. The Comment concludes with a discussion as to why it is necessary to continue cloning research albeit with some government regulation.

II. DOLLY'S IMPACT ON BIOMEDICAL RESEARCH IN AMERICA

A. WHAT IS "CLONING"?

Cloning is the process by which scientists create an identical, genetic "twin" of a parent organism.⁶ Traditionally, cloning requires the manipu-

4. *Id.* at 483.

5. See 143 CONG. REC. E607-03 (daily ed. Apr. 9, 1997) (extension of remarks by Rep. Lee H. Hamilton).

6. See *Clinton Seeks Legal, Ethics Review of Issues Related to Human Cloning*, Health Care Daily (BNA), at d8, Feb. 25, 1997, available in LEXIS, BNA Library, BNAHLT File. In Dolly's case, scientists removed the DNA from a sheep's unfertilized eggs and placed it into the genetic material of a single mature cell removed from an adult sheep's udder. The live embryo was then transplanted into the womb of a surrogate female sheep. See *id.*

lation of an embryo to make the identical "copy" of the parent organism.⁷ Dolly, however, used an adult mammary cell and an unfertilized egg, rather than an embryo.⁸ The Roslin Institute scientists created an embryo from activated genes in a specialized adult cell, then implanted the cell into a surrogate sheep mother.⁹ The technique used in the creation of Dolly is unique because it allows scientists to control the genetic makeup of clones.¹⁰ The traditional reliance on unfertilized eggs did not allow this control.¹¹

Cloning research has been conducted extensively at the cellular level, where scientists have been exploring ways to manipulate genes for a variety of medical benefits.¹² Currently, the United States has no law banning the cloning of human beings. Consequently, when the Roslin Institute announced that it had successfully cloned an adult sheep, President Clinton ordered the National Bioethics Advisory Commission (NBAC) to investigate the ethical and legal ramifications of human cloning and to recommend ways to prevent potential abuses of the technology.¹³

B. EARLY RESPONSE TO DOLLY

In the interim, President Clinton prohibited the use of federal funding for human cloning research and asked the private sector for a voluntary cessation on cloning research until the commission had reviewed the ethical implications.¹⁴ President Clinton compared the cloning of Dolly to splitting the atom and said that the nation "[had] a responsibility to move with caution and care to harness the powerful forces of science and technology so that we can reap the benefit while minimizing the potential danger."¹⁵

Since Dolly, debate has abounded as to the benefits and abuses cloning may have in the twenty-first century. Visions of power-hungry individuals cloning themselves over and over again for eternal life have come up against the use of cloning to create needed organs for an existing child.¹⁶ Which scenario is true? Actually, both scenarios are true. As Lord Acton immortalized over one hundred years ago, "Power tends to corrupt

7. See 143 CONG. REC. E607-03 (daily ed. Apr. 9, 1997) (extension of remarks by Rep. Lee H. Hamilton).

8. See *id.*

9. See *id.*

10. See *id.*

11. See *id.*

12. Curing diseases and repairing damaged tissues and organs are some potential benefits of cellular cloning research. See *id.*

13. See *The Clone Age*, *supra* note 2, at 68.

14. See *Clinton Bars Federal Funding for Human Cloning; Seeks Voluntary Halt*, Health Care Daily (BNA), at d7, Mar. 5, 1997, available in LEXIS, BNA Library, BNAHLT File.

15. *Id.*

16. See John A. Robertson, *Human Cloning: Should the United States Legislate Against It? No: The Potential for Good is Too Compelling*, 83 A.B.A. J., May 1997, at 81.

and absolute power corrupts absolutely."¹⁷ There can be no doubt that cloning is an incredible power with a large potential for abuse. However, cloning research also has the potential to create life-saving cures to diseases such as cystic-fibrosis, diabetes, and cancer.¹⁸ Consequently, any legislation banning cloning research must conduct a cost-benefit analysis comparing the potential benefits to the potential abuses.

III. HUMAN CLONING POLICY AND LEGISLATION

A. POLICY ISSUES

What are the policy concerns driving cloning legislation? Currently, there are five policy options at the forefront of cloning legislation.¹⁹ First, the federal government could ban all cloning research.²⁰ This broad ban would have the effect of stopping all research (including current research) that involves the cloning of plants, animals, or human products. Banning of scientific research and advancement, however, is an extreme reaction and may raise questions regarding constitutional rights to pursue different avenues of research that are similar to the rights of free speech, thought, and privacy.²¹ In addition, the medical benefits derived from cloning research are potentially tremendous. According to Representative Lee H. Hamilton of Indiana:

[The] potential applications of specialized cell cloning and advanced gene therapies . . . hold tremendous medical promise. The technique used by Scottish scientists to clone Dolly may enable medical science to explore therapies, such as growing new skin for burn victims, culturing bone marrow for treating cancer patients, manipulating genes to cure sickle cell anemia, and treating human infertility.²²

Second, cloning research could be regulated.²³ This would allow research to continue in the hope of obtaining improved agricultural output and needed medical benefits for society. Moreover, with regulation, the government could maintain some control over the type of research that is being conducted while allowing it to sustain the United States's technological edge in biomedical research. Regulation, however, may cause jurisdictional and empirical problems relating to who would regulate the research and how the regulation would occur.²⁴

Third, the cloning of human beings could be banned.²⁵ While current

17. LOUISE CREIGHTON, *LIFE AND LETTERS OF MANDELL CREIGHTON* 372 (1906).

18. See *President Clinton Proposes Legislation to Impose Five-Year Ban on Human Cloning*, *Health Care Daily* (BNA), at d4, June 10, 1997, available in LEXIS, BNA Library, BNAHLT File [hereinafter *Ban on Human Cloning*].

19. These options were presented at a roundtable discussion at Chicago-Kent in April 1997. See *The Clone Age*, *supra* note 2, at 70.

20. See *id.*

21. See *id.*

22. 143 CONG. REC. E607-03 (daily ed. Apr. 9, 1997) (extension of remarks by Rep. Lee H. Hamilton).

23. See *The Clone Age*, *supra* note 2, at 70.

24. See *id.*

25. See *id.*

law forbids the use of federal funding for human embryo research (including the cloning of human embryos), Dolly's cloning resulted from the use of non-embryonic tissue. Consequently, current law does not ban this type of cloning. An outright ban on human cloning research, however, may raise additional constitutional issues regarding the right to procreate,²⁶ while also hampering research on gene therapies for hereditary conditions like Parkinson's disease and Alzheimer's disease.

Fourth, public funding for cloning research could be stopped.²⁷ In this scenario, research would need to turn to the private sector to obtain funding. The concern here, however, is that private funding tends to move research out of the public eye, leading to inadequate safety procedures.²⁸

Last, the government could call for a voluntary moratorium on the researchers' behalf.²⁹ This last option is one that has generally been respected by American scientists.³⁰ However, while a moratorium on cloning research may affect American scientists, the effect on other scientists is unknown. Legislation regarding cloning in the United States may not be enough. To ignore its use and resulting ramifications among other countries is short-sighted, inefficient, and dangerous.

B. LEGISLATION

Historically, scientific legislation in the United States has been a post facto response to a problem.³¹ The cloning debate, however, has occurred before any such problems. Consequently, many policy-makers such as Lori B. Andrews, are applauding the country's proactive response to the new technology.

Usually, "[t]he law does not get a chance to respond until after scientists have actually done the thing that they are asking questions about But before cloning an entire human individual [could be] undertaken, there has been a chance for public opinion, legal thought and ethical thought to go into it."³²

This public discourse has resulted in a number of federal and state human cloning bills.

26. *See id.*

27. *See id.*

28. *See id.*

29. *See id.*

30. *See id.*

31. As stated by Dean John B. Attanasio:

Scientists behave proactively; they seek to encounter, indeed mold, the future by inducing from the specific to the general. In contrast, lawyers help society react to the milieu that the scientific mind helps to fashion. Relying heavily on precedent, the legal mind peers into the past for solutions, deducing from established, broad principles to the present specific case.

John B. Attanasio, *Review Essay*, 63 N.Y.U. L. REV. 662, 663 (1988) (citations omitted).

32. *The Clone Age*, *supra* note 2, at 69.

1. Congressional Reaction

a. The Cloning Prohibition Act of 1997

On June 7, 1997, the NBAC recommended that human cloning be banned pending further ethical research.³³ Responding to these recommendations, President Clinton proposed legislation to impose a five-year ban on human cloning.³⁴ According to Clinton, “[a]ttempting to clone a human being is unacceptably dangerous to the child and morally unacceptable to our society.”³⁵ The Cloning Prohibition Act of 1997 bans both the public and private sectors from using cloning technology to create a child.³⁶ However, Clinton recognized the importance of cloning technology as it relates to biomedical and agricultural advances. Consequently, fearing that the ban will inhibit beneficial cloning research in biomedicine and agriculture, Clinton carefully worded the proposal to stress that

nothing in the “Cloning Prohibition Act of 1997” restricts activities in other areas of biomedical and agricultural research that involve: (1) the use of somatic cell nuclear transfer or other cloning technologies to clone molecules, DNA, cells, and tissues; or (2) the use of somatic cell nuclear transfer techniques to create animals.³⁷

b. The Human Cloning Research Prohibition Act

The Cloning Prohibition Act, however, appears to ban only the cloning of human embryos. As a result, a bill to permanently prohibit the use of federal funds for human cloning research was introduced to the Senate on February 27, 1997.³⁸ In a statement to the Senate, Senator Bond proposed the legislation to send a clear signal: “Human cloning is something we cannot and should not tolerate. This type of research on humans is morally reprehensible. We should not be creating human beings for spare

33. See *Bioethics Commission Backs Federal Human Cloning Ban Pending More Study, Debate*, 15 MEALEY’S LITIG. REP.: BIOTECHNOLOGY, June 13, 1997, at 9 [hereinafter *Bioethics Commission*].

34. See *Ban on Human Cloning*, *supra* note 18, at d4. The NBAC recommended the five-year moratorium primarily to buy more time for study. The Commission offered several policy options:

- Continue the ban on federal funding of any effort to create a child through somatic cell nuclear transfer in both clinical and research settings.
- Obtain the agreement of the private sector to abide by the federal ban.
- Give all participants in research protocols the protections already in place for those enrolled in federally funded protocols.
- Enact federal statute to prohibit efforts to clone human beings.
- Facilitate public education and debate on the uses of somatic cell nuclear transfer cloning technology to prepare for potential legislative action.
- Cooperate with other countries to enforce common elements of respective policies on cloning human beings.

Bioethics Commission, *supra* note 33, at 9.

35. *Ban on Human Cloning*, *supra* note 18, at d4.

36. See H.R. 923, 105th Cong. (1997).

37. 143 CONG. REC. S5412-01 (daily ed. June 9, 1997) (message from the President).

38. See S. 368, 105th Cong. (1997).

parts or as replacements.”³⁹ Furthermore, on March 5, 1997, Representative Ehlers introduced to the House of Representatives his plan to propose legislation outlawing funding for human cloning research as well as legislation providing for an outright ban on human cloning.⁴⁰

The Human Cloning Research Prohibition Act is designed to “prohibit the expenditure of Federal funds to conduct or support research on the cloning of humans.”⁴¹ The Act does not restrict areas of scientific inquiry that involves: “(1) the use of somatic cell nuclear transfer or other cloning technologies to clone molecules, DNA, cells other than human embryo cells, or tissues; or (2) the use of somatic cell nuclear transfer techniques to create animals other than humans.”⁴² In addition, it requires the Director of the National Science Foundation (NSF) and the National Science Council (NSC) to (1) review the implementation of the Act and its effect on research; and (2) recommend any appropriate changes to the Act.⁴³

Since the introduction of House Bill 922, a number of additional “human cloning” bills have been introduced in Congress and state legislatures.⁴⁴ The widespread advent of cloning legislation, however, has created concern over broadly-worded bills in biomedical research fields. This concern has caused an interruption in the impetus to pass anti-cloning legislation.⁴⁵ As of August 1998, Congress has yet to pass anti-cloning

39. 143 CONG. REC. S1734 (daily ed. Feb. 27, 1997) (remarks by Sen. Bond).

40. See H.R. 922, 105th Cong. (1997).

41. *Id.*

42. *Bill Summary & Status for the 105th Congress* (visited Feb. 19, 1998) <<http://thomas.loc.gov/home/thomas2.html>>.

43. *See id.*

44. In addition to House Bills 922 and 923, and Senate Bill 368, a number of other cloning bills have been introduced by Congress. House Bill 3133 is the same as House Bill 922—it prohibits the expenditure of federal funds to conduct or support any research on human cloning; it requires the collaboration of the Director of the NSF and the NSC to review and make recommendations to the Human Cloning Research Prohibition Act; it does not restrict other areas of scientific research that involve: “(1) the use of somatic cell nuclear transfer or other cloning technologies to clone molecules, DNA, cells other than human embryo cells, or tissues; or (2) the use of somatic cell nuclear transfer techniques to create animals other than humans;” and last, it urges other countries to establish equivalent legislation. H.R. 3133, 105th Cong. (1998). Senate Bill 1574 prohibits the cloning of humans; Senate Bill 1599 criminalizes the cloning of humans through the use of human somatic cells; Senate Bills 1601, 1602, and 1611 are the amended versions of Senate Bill 1574 that additionally prohibit the use of federal funds for human cloning. These Bills also prohibit the Act from being construed to prohibit research endeavors not specifically mentioned in the Act; require the NBAC to report to the President and Congress about the current field of cloning; set forth civil penalties for violating the Act; require the Attorney General to have exclusive enforcement authority under the Act as well as the power to render binding advisory opinions on the scope of the Act; urge the President to cooperate with foreign countries to enforce cloning legislation; prohibit any portion of the Act from giving any individual a private right of action; and require the Act to preempt any state or local law dealing with human cloning. See *Bill Summary & Status for the 105th Congress* (visited Feb. 19, 1998) <<http://thomas.loc.gov/home/thomas2.html>>.

45. Pharmaceutical Research and Manufacturers of America (PhRMA) opposes anti-cloning laws for fear that they will inhibit vital research and because the Food and Drug Administration (FDA) already has the authority to ban cloning. The FDA has already stated that it would block human cloning. PhRMA’s lobbying has obviously had an effect on Congress; in February 1998, a Republican-backed anti-cloning bill was shelved by a

legislation despite President Clinton's urging.⁴⁶

2. *The Need for Precise Definitions in Cloning Statutes*

The Pharmaceutical Research and Manufacturers of America (PhRMA) has protested the wording of many cloning bills as broad and imprecise.⁴⁷ PhRMA is a public policy advocate for the pharmaceutical industry that keeps watch over pending state and Congressional medical legislation. According to PhRMA, human cloning bills and genetic privacy laws need to be precisely written in order to balance the right to privacy with the need for scientific advancement.⁴⁸ PhRMA maintains that bills regarding human cloning need to distinguish between the cloning of human beings and the cloning of human genes, cells, and tissues. The "cloning [of] human cells is the underlying premise and technique of genetic engineering and biotechnology."⁴⁹ Therefore, without precise definitions and guidelines, the potential for stifling beneficial research is extreme.

Even with a federal ban on public cloning research and development that utilizes precise definitions and guidelines, private sector research remains unregulated and is subject to a medley of varying state laws. These state laws in particular are what have public interest groups like PhRMA concerned.

bipartisan group of lawmakers because they felt the issue needed more time and study. Surprisingly, some bioethicists and theologians are also concerned with an outright ban on cloning. According to Brendan Minogue, a clinical bioethicist at Youngstown State University, a common-sense approach to cloning research should be taken. Minogue feels that there is nothing "intrinsically immoral" about cloning. Eric Sandstrom, *Lawmakers Debate How Far Human Cloning Ban Should Go* (last modified Feb. 19, 1998) <<http://www.ohio.com:80/bj/news/docs/006647.htm>>. However, he concedes that the potential for misuse is present with cloning research. Moreover, the Rev. George Murphy of St. Mark Lutheran Church in Tallmadge does not oppose cloning, viewing cloning as part of the "scientific technology that God intended for humanity to use in the world." *Id.*

46. In January 1998, Richard Seed, a Harvard-trained physicist, announced that he planned to start a commercial cloning clinic in Chicago to clone humans for infertile couples. His announcement sent a shock wave through the scientific community around the world. President Clinton responded by stating that Seed's plans were "untested and unsafe and morally unacceptable." J. Madeleine Nash, *Cloning's Kevorkian: Who is this Eccentric Physicist Named Seed Who Wants to Start A Clinic in Chicago to Clone Humans?*, TIME, Jan. 19, 1998, at 58. While Clinton urged Congress to quickly pass cloning legislation banning cloning for at least five years, Clinton's executive order banning cloning only applies to the use of *federal* funds for cloning research. Consequently, without Congressional action, there is nothing to stop Seed from acquiring private funding in order to open a cloning clinic. See *Clinton Stresses Urgent Need for Human-Cloning Ban* (last modified Jan. 10, 1998) <<http://cnn.com/HEALTH/9801/10/clinton.cloning/index.html>>. Moreover, Seed has stated that if legislation is passed banning cloning in the United States, he will simply take his clinic somewhere else. See *id.*

47. See *Language of Privacy, Cloning Bills Threatens Genetic Research, PhRMA Says*, Health Care Daily (BNA), at d4, Aug. 7, 1997, available in LEXIS, BNA Library, BNAHLT File [hereinafter *Language of Privacy*].

48. See *id.*

49. *Id.*

3. States' Reactions

Since the cloning of Dolly, many states have placed cloning bills on the docket without regard to long-term research ramifications.⁵⁰ As a result, PhRMA has noticed an increased number of state patient confidentiality bills that have dangerous ramifications for the biomedical industry.⁵¹ The state bills make no distinction between anonymous medical data and patient-identified medical data.⁵² Consequently, in the attempt to give patients access to their genetic information, state genetic privacy laws may imply permission for patients to revoke use of their genetic information at any time.⁵³ The ramifications of this privilege are extensive. Revocation of genetic information could disrupt ongoing clinical research and stall breakthroughs in medical technology regarding cures for AIDS, cancer, or heart disease.⁵⁴

PhRMA has already had to deal with state bills proposing genetic privacy rights. Last year, the New Jersey legislature sent a bill to its governor mandating genetic property rights under a privacy bill.⁵⁵ Genetic property rights would allow patients to license their genetic information to research companies. This, in turn, would force research companies to track patient genetic information, increasing research costs significantly, thus slowing down the progress of biomedical research. While the bill was vetoed, state lawmakers maintained that they had no intention of hindering genetic research.⁵⁶ However, broadly-worded bills leave room for judicial activism in an area that needs strict guidelines.

IV. CURRENT FEDERAL REGULATION OF BIOMEDICAL RESEARCH

Currently, federal law places great strictures on biomedical research. Federal law basically requires researchers to submit proposals to expert panels before beginning any studies on human subjects.⁵⁷ The panel is required to judge the proposal by relying on federal guidelines regarding

50. Currently, 27 states have addressed human cloning legislation: Alabama, California, Connecticut, Delaware, Florida, Georgia, Hawaii, Illinois, Indiana, Kansas, Maryland, Michigan, Minnesota, Mississippi, New Hampshire, New Jersey, New York, North Carolina, Ohio, Oregon, Pennsylvania, Rhode Island, South Carolina, Tennessee, Utah, Virginia, and Wisconsin. Of these states, California, Michigan, Missouri, and Rhode Island have enacted legislation banning human cloning, research, or public funding of research. Of the remaining states, only Delaware, Hawaii, Illinois, New Jersey, New York, Ohio, Oregon, Pennsylvania, South Carolina, Utah, and Virginia still have bills pending regarding human cloning. The remainder of the states failed to carry over the proposed bills from the 1998 regular sessions to the 1999 legislative sessions.

51. *See Language of Privacy, supra* note 47, at d4.

52. *See id.*

53. *See id.*

54. *See id.*

55. *See id.*

56. *See id.*

57. *See* Henry T. Greely, *The Control of Genetic Research: Involving the "Groups Between,"* 33 Hous. L. Rev. 1397, 1399 (1997).

the use of human subjects.⁵⁸

The extensive federal regulations in existence derive mainly from the discovery of abusive research tests on humans during the 1940s and 1950s. In setting federal guidelines, Congress wanted to ensure that scientific abuses would not occur in the United States again.⁵⁹

Any recipients of federal funding must take established steps to protect human subjects. The rules demand that any risks facing human test subjects be justified by the potential benefits of the research, and the researchers must obtain informed consent and establish additional protections to vulnerable populations.⁶⁰ Compliance is guaranteed by the withholding of federal funds to institutions that refuse to abide by the regulations.⁶¹ As federal funds make up the bulk of scientific funding, noncompliance is generally not a problem.⁶²

Consequently, the federal government extensively regulates biomedical research and development. Moreover, the federal guidelines basically preempt state statutory regulations.⁶³ While states may regulate biomedical research, they cannot force the federal government to supply the necessary funding that the scientific community relies on to continue its research.⁶⁴ The federal framework, therefore, is ideally suited to the ethical oversight of cloning research. The guidelines are already established and successfully used on a daily basis.⁶⁵

V. LEGAL RAMIFICATIONS OF ANTI-CLONING LEGISLATION

Until recently, the judicial system has been unprepared to handle the legal ramifications of cloning human embryos.⁶⁶ Because of the cloning of Dolly, Congress and state legislatures have had to rapidly create legislation in an attempt to control unregulated cloning research and experi-

58. *See id.*

59. *See id.* at 1400.

60. *See id.* at 1401.

61. *See id.* at 1402.

62. *See id.*

63. *See id.*

64. *See id.* at 1402-03.

65. For twenty years, one paradigm for the control of biomedical research has ruled the United States. The federal government has controlled that research in two ways, to one end. It has used both its power of the purse, as the main source of funding of research, and its regulatory power, as the approver of new drugs and devices, to require that almost all biomedical research be governed by federal regulations, enforced through Institutional Review Boards (IRB). In addition, those federal regulations, supported both by international declarations and the domestic growth of patient autonomy, insisted almost always on the consent, properly informed, of the individual subjects of the research. This American paradigm rules not only the United States, but, through the spread of ideas, the international flow of federal money . . . it has come to dominate the entire research world.

Id. at 1398.

66. *See, e.g.,* Davis v. Davis, 842 S.W.2d 588, 590 (Tenn. 1992) (court facing unique question in custody battle over embryos with no statutory guidelines or common law precedent).

mentation. A complete ban on cloning research, however, raises constitutional questions regarding free speech and thought. Does the United States have the constitutional authority to completely ban an entire field of scientific inquiry? For the following discussion, assume that the United States has completely banned cloning research. The discussion will focus on possible constitutional issues that such a ban would raise.

A. THE FIRST AMENDMENT RIGHT TO FREE SPEECH AND THE
"PENUMBRA" OF PRIVACY

With the rapid gains in technology, the American judiciary has not had the opportunity to leisurely debate the proper constitutional avenues involved in biomedical research. However, it could be argued that the freedom to pursue various avenues of research is a penumbra of the constitutional right to free speech. In *Griswold v. Connecticut*, the Supreme Court found that several of the Bill of Rights's guarantees protect privacy interests and create a "penumbra" or "zone" of privacy.⁶⁷ The *Griswold* court held that the First Amendment's explicit protection of free speech includes "the right to read and *freedom of inquiry, freedom of thought*, and freedom to teach."⁶⁸ These freedoms, while not explicitly guaranteed by the Constitution, are "peripheral" First Amendment rights.⁶⁹ Consequently, the right to pursue various avenues of research may be included in the First Amendment's "peripheral" freedoms of inquiry and thought.

However, the idea that the Bill of Rights creates a penumbra of privacy has been subject to much criticism. The idea that the First, Third, Fourth, and Fifth Amendments collectively create a general right to privacy has been described as illogical. This is because the Amendments lay out specific privacy rights. The jump from specific privacy rights to a "general" right to privacy may be too extreme a leap, particularly for the "plain meaning" or "textualist" justices on the Supreme Court. "[W]hen the Constitution sought to protect private rights it specified them; that it explicitly protects some elements of privacy, but not others, suggests that it did not mean to protect those not mentioned."⁷⁰

An alternative to the "penumbra" argument may be the concept that research and/or experimentation is a part of the communications process itself.⁷¹ Therefore, under the First Amendment's right to free speech, one would have the constitutional right to research and/or experiment.

67. 381 U.S. 479, 484 (1965).

68. *Id.* at 482 (emphasis added); see also *Meyer v. Nebraska*, 262 U.S. 390 (1923) (holding that the Fourteenth Amendment's use of the term "liberty" includes the right of teachers to teach and students to acquire knowledge).

69. See *Griswold*, 381 U.S. at 483.

70. Louis Henkin, *Privacy and Autonomy*, 74 COLUM. L. REV. 1410, 1422 (1974).

71. Dean Attanasio acknowledges that the First Amendment right to free speech may "impede the government's regulation of scientific endeavors if scientific research is viewed as part of the communications process." Attanasio, *supra* note 31, at 695.

Some argue that a line should be drawn between pure and applied research. According to John B. Attanasio, professor and dean of Southern Methodist University School of Law, however, "differentiating between pure and applied research represents content differentiation which is generally impermissible under [F]irst [A]mendment analysis."⁷² Furthermore, Dean Attanasio states that First Amendment jurisprudence "appears to distinguish among funding, experimentation, and publication because these activities involve qualitatively different aspects of the scientific endeavor;"⁷³ thus, scientific speech would be strongly protected under the traditional constitutional analysis for free speech. This traditional analysis would also extend to publication of scientific hypotheses and the exchange of ideas.⁷⁴

Scientific experimentation, however, may be a more difficult question than the immediately preceding two issues. This determination has to do with the fact that experimentation is an "action" and not a "communication;" thus, it should not be protected under the First Amendment.⁷⁵ Others argue, however, that scientific experimentation is a "building block of communication" and therefore should be accorded First Amendment protection.⁷⁶

B. THE "PENUMBRA" OF PRIVACY INTERESTS (INCLUDING REPRODUCTIVE FREEDOM) IN THE BILL OF RIGHTS

Conceivably, the right to pursue different avenues of scientific research is not the only constitutional issue involved in human embryo cloning. Reproductive freedom has been established as a fundamental right in a line of cases beginning with *Griswold v. Connecticut*.⁷⁷ In *Griswold*, the Supreme Court relied on the privacy interests in the Bill of Rights as creating a general right to privacy that extended to reproductive freedom.⁷⁸ The right to procreate, however, has never been explicitly acknowledged in a Supreme Court case.⁷⁹ Instead, this privilege can be inferred by dicta in a number of Supreme Court cases.⁸⁰ For example, in *Carey v. Population Services International*,⁸¹ the Supreme Court read

72. *Id.* at 696.

73. *Id.*

74. *See id.*

75. *See id.*

76. *Id.*

77. 381 U.S. 479 (1965).

78. *See id.*

79. *See* Debra Feuerberg Duffy, Note, *To Be or Not To Be: The Legal Ramifications of the Cloning of Human Embryos*, 21 RUTGERS COMPUTER & TECH. L.J. 189, 195 (1995).

80. *See* *Meyer v. Nebraska*, 262 U.S. 390, 399 (1923) (recognizing that "liberty" protected by the Fourteenth Amendment includes the right to "establish a home and bring up children . . . privileges long recognized at common law as essential to the orderly pursuit of happiness by free men"); *see also* *Skinner v. Oklahoma*, 316 U.S. 535, 541 (1942) (striking down a statute calling for compulsory sterilization of criminals because it "involves one of the basic civil rights of man[;] . . . procreation [is] fundamental to the very existence and survival of the race").

81. 431 U.S. 678 (1977).

Griswold as protecting "individual decisions in matters of childbearing from unjustified intrusion by the State."⁸² In addition, in *Eisenstadt v. Baird*, the Supreme Court observed that "[i]f the right of privacy means anything, it is the right of the individual . . . to be free from unwarranted governmental intrusion into matters so fundamentally affecting a person as the decision whether to bear or beget a child."⁸³

The cloning of human embryos as a use for reproduction, however, begs a number of questions: first, does reproductive liberty extend to noncoital reproduction? While the above rulings occurred prior to noncoital reproductive abilities, the language of the rulings were broad and encompassing. This may create an inference that the Supreme Court would hold that noncoital reproduction is a fundamental right (particularly in the cases of parents who cannot reproduce naturally).⁸⁴

Second, does cloning human embryos constitute noncoital reproduction? In vitro fertilization is one example of noncoital reproduction that constitutes the "creation" of offspring. Consequently, cloning and in vitro fertilization could be considered as two sides of the same coin. However, while it can be argued that both are unnatural reproductive technologies, in vitro fertilization involves the creation of new and unique individuals, while cloning merely creates a duplicate "copy" of a preexisting individual. If in vitro fertilization is held as a fundamental right because a person may not be able to reproduce naturally, what of cloning? According to George J. Annas, professor and chair of the health law department at Boston University School of Public Health:

Cloning is replication, not reproduction. Although the constitutional right not to reproduce would seem to apply with equal force to a right not to replicate, to the extent that there is a constitutional right to reproduce, . . . it seems unlikely that existing privacy or liberty doctrine would extend this right to replication by cloning.⁸⁵

In addition, a person's ability to naturally reproduce may have an effect on the determination of whether cloning is considered a fundamental right to procreate. Classifying cloning technology as reproduction, however, leads to further constitutional liberty issues involving consideration of who is being cloned and for what purpose that individual is being cloned.

C. THE CONCEPT OF INDIVIDUAL LIBERTY

One way a cloned individual could be considered "offspring" is if his or her parents had the child cloned from a preexisting or "host" child. In this situation whose rights are prevalent?⁸⁶ The parents? The preexisting child's? The cloned child's? What argument can be made for individual-

82. *Id.* at 687.

83. 405 U.S. 438, 453 (1972).

84. See Duffy, *supra* note 79, at 195-96.

85. Marianne Lavelle, *Clone Bills, Clone Suits*, NAT'L L. J., Apr. 7, 1997, at A14.

86. See Stephen A. Newman, *Human Cloning and the Family: Reflections on Cloning Existing Children*, 13 N.Y.L. SCH. J. HUM. RTS. 523 (1997).

ity and liberty?⁸⁷ In Western society, the concept of individuality is one based on liberty and self-determination.⁸⁸ In particular, liberty interests in the United States are socially viewed as grounded in the very concepts and creation of the country. However, determining that cloning is a fundamental right of reproduction would generally apply only to adults eighteen years of age or older.⁸⁹ But what about the host child's or cloned child's rights? Determining juvenile rights in the United States is often extremely complicated.

1. Juvenile Constitutional Rights: An Overview

a. The Protectionist Theory vs. The Personhood Theory

Three sets of interests normally govern the determination of juvenile rights—the child's, the parents' (or guardians') and the government's.⁹⁰ This balancing game often leads to contradictory and confusing results. For example, the Supreme Court has recognized full constitutional rights for juveniles in some contexts but not in others.⁹¹ Generally, this contradiction can be explained by two competing theories that currently govern juvenile law—the protectionist theory⁹² and the personhood theory.⁹³

The protectionist theory treats juveniles as if they are in need of supervision and care. In this case, the government often acts as a protector or "parent."⁹⁴ Personhood theory, on the other hand, affords juveniles the same rights guaranteed to autonomous individuals.⁹⁵ The use of both theories has made prediction as to the extent of juvenile rights uncertain. This uncertainty may extend to determining whose rights should prevail in a reproductive cloning situation.

87. See generally Mona S. Amer, Comment, *Breaking the Mold: Human Embryo Cloning and Its Implications for a Right to Individuality*, 43 UCLA L. REV. 1659 (1996).

88. See HELGA DITTMAR, *THE SOCIAL PSYCHOLOGY OF MATERIAL POSSESSIONS: TO HAVE IS TO BE* 191-92 (1992).

89. According to Martin R. Gardner, the majority of states recognize the age of majority as eighteen years old. See MARTIN R. GARDNER, *UNDERSTANDING JUVENILE LAW* 4-5 (1997).

90. See *id.* at 9.

91. See, e.g., *Parham v. J.R.*, 442 U.S. 584 (1979); *Fare v. Michael C.*, 442 U.S. 707 (1979) (decided the same day). In *Parham*, the Supreme Court held that young people were not entitled to procedural protections in the form of hearings or counsel when parents recommended confinement in mental institutions. In *Fare*, however, the Court held that minors were not entitled to any special protections, over that a normal adult would receive, regarding access to parents or counsel.

92. Grounded in the common law, children historically did not have the full amount of rights granted to autonomous adults. However, they were entitled to receive "care, affection, discipline, and guidance enabling development into mature and responsible adulthood." GARDNER, *supra* note 89, at 11. The protectionist theory holds that legal remedies for children are those consistent with the juvenile's best interests particularly when the child's guardian is failing in his duty to provide protection. See *id.* at 12.

93. The personhood theory of juvenile rights is grounded in the American concept of liberty, autonomy, and individual respect. Personhood theorists believe that a juvenile is "capable of rational self-rule [and] is entitled to be treated as a person, which in turn entails freedom from paternalistic interventions against his will." *Id.* at 14.

94. See *id.* at 12-13.

95. See *id.* at 13-14.

b. The Rights of the "Clone"

The protectionist theory is often cited as a mechanism to protect young people from the ramifications of their irresponsible decisions and actions.⁹⁶ When considering the rights of a clone, therefore, the theory's foundation of protection seems to be inapplicable in the decision to clone a child for reproductive purposes. This is particularly apparent when consideration is given to the clone's feelings of individuality and uniqueness. A child often has enough emotional problems to contend with as a part of the normal maturation process without having to contend with being a "copy" of an older child. Because the decision is made entirely prior to birth, and the child's protection and care are not the overriding reasons for the decision, cloning cannot be justified under a protectionist rationale.

In direct contrast to the protectionist theory of juvenile justice is the personhood theory. However, in the context of using cloning as a means of reproduction, the personhood theory in particular appears to argue against allowing the cloning of a child. Because this theory emphasizes the individuality and autonomy of a child, personhood theorists would argue that making a decision to produce a clone of a child would likely violate the clone's individual autonomy and liberty. The child would not be an individual *per se*, but a copy of another, older child. Consequently, the cloning of a child would seem to undermine the foundational underpinnings of personhood theory—individuality, autonomy, and liberty.

c. The Rights of the "Host" Child

While the United States does not extend full constitutional rights to children, "nevertheless [they] have critical interests that deserve respect and recognition."⁹⁷ Never is this statement more apt than when considering the rights of preexisting or "host" children for cloned individuals. Protectionist theorists would likely oppose the idea of allowing an existing child to be cloned, precisely because it would be difficult to argue how cloning a child would promote the "best interests of the child."⁹⁸

On the other hand, the personhood theory of juvenile justice may look with approval on the cloning of a child, provided the host child had a hand in the decision. In this situation, the child would probably have to have reached an age where he was capable of making rational decisions. Personhood theorists acknowledge that very young children lack the capacity for rationality.⁹⁹ According to Martin R. Gardner, therefore, personhood theorists recognize that very young children have only a "'future interest' in personhood and the rights that flow therefrom."¹⁰⁰ Paternalistic responses are therefore appropriate until such time as the young per-

96. *See id.* at 12.

97. Newman, *supra* note 86, at 525.

98. GARDNER, *supra* note 89, at 12.

99. *See id.* at 14.

100. *Id.*

son develops a capacity for rationality. "When that capacity is developed, arguably by adolescence, paternalistic responses are inconsistent with personhood rights."¹⁰¹ Consequently, personhood theorists would likely support a cloning decision provided the child was involved in the choice. Ultimately, however, cloning involves both the rights of the host child and of the clone. The personhood theory, therefore, would need to acknowledge these rights and attempt to formulate a theory that afforded the proper balancing between the two individuals' rights.

D. THE COMMERCE CLAUSE

The Constitution gives Congress the power "[t]o regulate Commerce with foreign Nations, and among the several States, and with the Indian Tribes."¹⁰² Generally, Congress bases a significant portion of its activities on the power it is granted by the Commerce Clause. Consequently, Congress's power to regulate interstate commerce gives rise to a number of disputes, particularly when a person believes Congress is acting outside its granted authority to control either private individuals' or states' conduct.

Generally, the Supreme Court will give great deference to legislative decisions under the Commerce Clause. Only once since 1937 has the Supreme Court struck down Congressional legislation as an indication that Congress went beyond its Commerce Clause authority.¹⁰³ In *United States v. Lopez*,¹⁰⁴ the Supreme Court set forth the modern interpretation of Congress's power under the Commerce Clause. First, the majority held that a regulated activity must "substantially affect" interstate commerce.¹⁰⁵ Under this definition, it is not enough that the activity in question merely "affects" interstate commerce. Furthermore, *Lopez* seemed to emphasize that the regulated activity should be a commercial activity. In particular, the *Lopez* Court found that the regulation should be a part of a "larger regulation of economic activity, in which the regulatory scheme could be undercut unless the intrastate activity were regulated."¹⁰⁶ Consequently, a suit successfully challenging a cloning research ban under the Interstate Commerce Clause would need to establish that cloning research does not substantially affect interstate commerce. Moreover, it would strengthen the suit if a plaintiff could show that scientific research is not a commercial activity.

Unfortunately, due to the deferential view the Supreme Court generally gives to Congressional legislation under the Commerce Clause, it will likely be extremely difficult for a plaintiff to successfully challenge anti-cloning legislation. Even if a plaintiff successfully showed that the clon-

101. *Id.* (citation omitted).

102. U.S. CONST. art. I, § 8, cl.3.

103. See *United States v. Lopez*, 514 U.S. 549 (1995) (activity being regulated was not a commercial activity and did not "substantially affect" interstate commerce).

104. *Id.*

105. *Id.* at 567.

106. *Id.* at 549.

ing research took place solely intrastate, the Court may find that similar research activities nationwide (i.e., taken as a class) have a cumulative effect on interstate commerce.¹⁰⁷

E. THE FIFTH AND FOURTEENTH AMENDMENTS' DUE PROCESS CLAUSE

The Due Process Clauses of the Fifth¹⁰⁸ and Fourteenth¹⁰⁹ Amendments impose on the federal and state governments the obligation to afford due process to an individual prior to depriving him of life, liberty, or property. Under the Due Process Clauses of the Constitution, two types of claims may be brought: substantive or procedural.

Under substantive due process, the Supreme Court has held that neither the federal nor state governments may regulate certain areas of human life.¹¹⁰ Substantive due process analysis generally distinguishes between "fundamental"¹¹¹ and "non-fundamental"¹¹² rights. Fundamental rights have been held to consist of rights relating to privacy and autonomy (e.g., the right to use birth control¹¹³ or the right to have an abortion¹¹⁴). Non-fundamental rights usually consist of economic and social-welfare regulations (e.g., employment policies relating to drug usage¹¹⁵ or public education financing systems¹¹⁶). Consequently, the first

107. See *Wickard v. Filburn*, 317 U.S. 111 (1942) (holding that Congress may regulate an entire class of acts, if the class has a substantial economic effect on interstate commerce). The *Lopez* Court referred to *Wickard* as "perhaps the most far reaching example of Commerce Clause authority over intrastate activity." *Lopez*, 514 U.S. at 560.

108. Specifically, the Fifth Amendment holds that the federal government may not deprive an individual of "life, liberty, or property, without due process of law." U.S. CONST. amend. V.

109. The Fourteenth Amendment holds that *no state* shall "deprive any person of life, liberty, or property, without due process of law." U.S. CONST. amend. XIV, § 1.

110. See, e.g., *Adarand Constructors, Inc. v. Peña*, 515 U.S. 200 (1995) (holding that the legislation in question was subject to strict scrutiny under the Fifth Amendment's Due Process clause); *City of Richmond v. J.A. Croson Co.*, 488 U.S. 469 (1989) (holding that the legislation in question was subject to strict scrutiny under the Fourteenth Amendment's Due Process clause).

111. While conducting a substantive due process analysis, if a fundamental right is affected, the Supreme Court will apply what is known as the "strict scrutiny" test. Under strict scrutiny, a government regulation will be upheld if it is *necessary* to achieve a *compelling* governmental objective. See generally *Shaw v. Reno*, 509 U.S. 630 (1993); *City of Richmond*, 488 U.S. at 469; *Loving v. Virginia*, 388 U.S. 1 (1967).

112. For non-fundamental rights, the regulation must pass the rational basis test (i.e., the government regulation will be upheld if the regulation was enacted in pursuit of a *legitimate* governmental objective with a means that is *rationally related* to the objective). *But see City of Cleburne v. Cleburne Living Ctr.*, 473 U.S. 432 (1985) (state may not rely on a classification whose relationship to an asserted goal is so attenuated as to render distinction arbitrary or irrational). See generally *New York Transit Auth. v. Beazer*, 440 U.S. 568 (1979) (exclusion from employment of methadone users was not overbroad for failing to include rules for methadone users who have satisfactorily progressed with their treatment).

113. See *Griswold v. Connecticut*, 381 U.S. 479 (1965).

114. See *Roe v. Wade*, 410 U.S. 113 (1973).

115. See *New York Transit Auth.*, 440 U.S. at 568.

116. See *San Antonio Indep. Sch. Dist. v. Rodriguez*, 411 U.S. 1 (1973).

and most important factor in a substantive due process claim is determining what type of right is regulated.

Substantive due process, however, is not the only type of protection the Fifth and Fourteenth Amendments afford. The Due Process Clauses also require both federal and state governments to act with adequate or fair procedures when they deprive a person of life, liberty, or property.¹¹⁷ Under a procedural due process claim, the government must have taken a person's life, liberty, or property. Generally, the determining factor in procedural due process claims is what constitutes "liberty" and "property."¹¹⁸

Liberty and property interests arising under procedural due process claims have usually been afforded broad interpretations by the Supreme Court. In *Meyer v. Nebraska*,¹¹⁹ the Supreme Court explained that the "liberty" interest secured by the Due Process Clause (in Meyer's case, the Fourteenth Amendment) denotes:

not merely freedom from bodily restraint but also the right of the individual to contract, to engage in any of the common occupations of life, to acquire useful knowledge, to marry, establish a home and bring up children, to worship God according to the dictates of his own conscience, and generally to enjoy those privileges long recognized at common law as essential to the orderly pursuit of happiness by free men.¹²⁰

Government benefits such as welfare, drivers' licenses, or employment have been held as "liberty" or "property" interests subject to procedural due process under either the Fifth or Fourteenth Amendments.¹²¹

To bring a successful substantive due process claim against anti-cloning legislation, a plaintiff would first need to establish whether the right in question was fundamental or non-fundamental. It is likely that the right in question would be considered a non-economic right. In *Meyer*, the Supreme Court struck down a statute prohibiting the teaching of foreign languages to students. The Court held that the liberty interests included the right of teachers to teach and the right of students to acquire knowledge.¹²² While *Meyer* was decided under the rational basis test, today the

117. See generally *Fuentes v. Shevin*, 407 U.S. 67 (1972); *Bell v. Burson*, 402 U.S. 535 (1971); *Goldberg v. Kelly*, 397 U.S. 254 (1970).

118. Interests in "life" are threatened by government action in relatively rare circumstances, generally in capital punishment cases.

119. 262 U.S. 390 (1923).

120. *Id.* at 399.

121. See, e.g., *Perry v. Sindermann*, 408 U.S. 593 (1972) (Supreme Court holding that employees in university settings entitled to hearings on de facto tenure claims); *Goldberg*, 397 U.S. at 254 (Supreme Court holding that welfare recipients must be given evidentiary hearings before their benefits may be terminated); *Bell*, 402 U.S. at 535 (Supreme Court holding that licensed drivers cannot have their licenses revoked without hearings determining fault). But see *Board of Regents v. Roth*, 408 U.S. 564 (1972) (Supreme Court holding that employees' interests in being rehired for jobs not liberty or property interests when rehiring decisions were not based on character nor were employees barred from other university jobs).

122. See *Meyer*, 262 U.S. at 399.

right of inquiry could conceivably be considered a fundamental right, thus subjecting it to strict scrutiny.

To bring a successful procedural due process claim against anti-cloning legislation, the plaintiff would first need to show that the regulation was depriving him of a "liberty" or "property" interest without proper procedure. Under procedural due process, the government's complete banning of an entire area of research could have the effect of depriving a person of a liberty interest in acquiring knowledge. In this situation, there would be no process; consequently, the balancing test set forth in *Mathews v. Eldridge* would not be satisfied.¹²³ Furthermore, a property interest could be argued for a government research job if the plaintiff has a "legitimate claim of entitlement"¹²⁴ to the job (this depends, however, on how the government legislates how an employee may be discharged).

VI. THE CASE FOR CLONING RESEARCH

Human cloning has potential areas of abuse. Eugenics, involuntary cloning, and cloning for the replacement of a dead family member are examples of abuses that may arise out of unregulated use of the technology. The adoption of human anti-cloning bills will bring the United States in line with other Western European countries that currently have human cloning legislation.¹²⁵ However, broad, all-encompassing bans on cloning research and development in both the public and private sectors may cripple the United States both in utilizing new advances in technology for beneficial purposes and in addressing cloning usage in other countries, particularly ones in which the United States's policies are not countenanced.

In the controversy over cloning it is often forgotten that cloning research does not revolve entirely around the cloning of embryos. Cloning research is used in a variety of research endeavors involving human cells, genes, and tissues.¹²⁶ Scientists use genetic engineering in the search for cures for cystic fibrosis, heart disease, AIDS, diabetes, stroke, and hemo-

123. 424 U.S. 319 (1976). In *Mathews*, the Court balanced the private interest affected by the official action and the "risk of an erroneous deprivation of such interest through the procedures used, and the probable value, if any, of additional or substitute procedural safeguards" with "the Government's interest, including the function involved and the fiscal and administrative burdens that the additional or substitute procedural requirement would entail." *Id.* at 335.

124. *Perry*, 408 U.S. at 602 (holding that a "legitimate claim of entitlement" to a job position was determined by state law in a Fourteenth Amendment procedural due process analysis).

125. On January 12, 1998, nineteen European nations signed a ban on human cloning. The countries signing the ban include: Denmark, Estonia, Finland, France, Greece, Iceland, Italy, Latvia, Luxembourg, Moldova, Norway, Portugal, Romania, San Marino, Slovenia, Spain, Sweden, Macedonia and Turkey. Germany and Britain did not sign the ban. Germany cited its current law banning cloning as being stronger than the measure signed by the nineteen countries. Britain, on the other hand, has a long tradition of protecting scientific research. See *19 European Nations Sign Ban On Human Cloning* (last modified Jan. 12, 1998) <<http://cnn.com/HEALTH/9801/12/cloning.ban/index.html>>.

126. See *Language of Privacy*, *supra* note 47, at d4.

philia.¹²⁷ Often, the use of human cells, genes, and tissues has led to more effective medicines to treat these diseases. Furthermore, the cloning of animals and plants can lead to better livestock and crops, which in turn effects the overall health of the population.¹²⁸

To refuse to utilize cloning technology is to ignore the amazing benefits that can result from cloning. The improvement of life through the eradication of deadly diseases and the increased output of superior foodstuffs at economical prices are just some of the benefits. Moreover, conceivably a time will come in which organs can be cloned for the express purpose of supplying vital organs to those in need of transplants. Cloning individual cells, for example, may help burn victims by creating grafts of brand-new skin that could be wrapped around injured areas like a bandage.¹²⁹ Additionally, Leukemia patients may be able to have cloned cells provide an infusion of fresh bone marrow, potentially leading to a cure.¹³⁰ Also, cloning may help patients of Parkinson's and other brain diseases by providing neural tissue genetically identical to their own.¹³¹ Unlike cells from an unrelated donor, cloned cells would not be rejected by the human host. Patients would not need to take powerful drugs to suppress the immune system so that the body's natural defenses would not reject the introduction of foreign cells.¹³²

The use of cloning to treat existing diseases in humans, however, is not the only potential benefit attributable to cloning. Cloning may also lead to genetic engineering of humans, eradicating diseases and health problems prior to birth.¹³³ For example, inherited diseases like Tay-Sachs and health problems like alcoholism and obesity may be eradicated through cloning technology.¹³⁴ Consequently, cloning has far-reaching, positive ramifications beyond the fears expressed against cloning.

VII. CONCLUSION

The advent of new technologies requires the law to be flexible and judges to be innovative. As new controversies arise from these technologies, traditional legal tenets will need to be applied in new ways, reflecting the unique nature of genetic materials.

Unfortunately, society cannot turn its back on new technologies. Nor can society ignore the unconstrained use of cloning technology in world areas that are subject to great upheaval. The potential for abuse is too extreme. Accordingly, cloning legislation is necessary to establish guidelines and to ensure compliance with ethical standards.

127. See *Ban on Human Cloning*, *supra* note 18, at d4.

128. See *id.*

129. See J. Madeleine Nash, *The Case for Cloning: The Benefits of this Bold Technique Outweigh the Risks, and the Danger Is Not What You Think*, *TIME*, Feb. 9, 1998, at 81.

130. See *id.*

131. See *id.*

132. See *id.*

133. See *id.*

134. See *id.*

However, a complete ban is short-sighted, ignores the potential benefits of cloning, and may be a constitutional violation. Moreover, a ban will not address cloning research and development in other parts of the world. The United States holds itself out as a world power, and world powers are often under the scrutiny of their neighbors. This country is often called upon by our allies to set standards and to regulate research and development. Consequently, the cloning of genetic material should be allowed with guidelines established to ensure ethical research and investigation.

The moratorium on human cloning should be maintained until such time as it can be assured that the power of cloning will not be abused by those individuals using the technology for illegitimate ends. By relying on the scientific community's self-regulation and the public's scrutiny through legislation and the media, cloning research and technology could be employed to the benefit of modern society.

Until its ramifications are understood, cloning research and development should be conducted at an intelligent and rational pace. This would give scientists, ethicists, lawyers, and theologians ample opportunity to discuss and debate the merits of cloning.

Absolute power does corrupt; however, with procedural safeguards and ethical considerations, cloning can be used to benefit society in ways undreamed of today.