Human Cloning: Beyond the Realm of the Constitutional Right to Procreative Liberty

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HUMAN CLONING: BEYOND THE REALM OF THE CONSTITUTIONAL RIGHT TO PROCREATIVE LIBERTY

Maureen McBrien*

"[C]loning . . . replicates everything that [is] troubling about reproductive technologies: excessive commercialization, reckless experimentation on women, procedures undertaken without consent, unmonitored physical and psychological risks. From my point of view, it [is] time to reverse the process. Cloning seem[s] to be the perfect opportunity to shift the burden of proof, to ask scientists to give a good reason rather than a false promise before they beg[i]n the technique, to show why it [is] really necessary, and to design a system from the start to protect the participants."1

I. INTRODUCTION

When headlines appeared in February of 1997 proclaiming that Scottish scientist Ian Wilmut had successfully cloned an adult sheep named Dolly, imaginations quickly drifted toward the prospect of human cloning.2 Before Dolly, potential cloners had

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2 Tim Radford, German Fury Over Cloning, THE GUARDIAN, Feb. 28, 1997, at 1; Margaret Talbot, A Desire to Duplicate, N.Y. TIMES MAG., Feb. 4, 2001, at 40. In a process called somatic cell nuclear transfer, Wilmut transferred and fused with an electrical pulse from the cell of an adult ewe to a hollowed donor egg consisting of only outer membranes and cytoplasm. The resulting embryo was then implanted and gestated in the uterus of a surrogate sheep. Id. at 44-45. “Dolly” was the sole survivor of
nothing other than science fiction to encourage them. Dolly inspired companies to forge ahead despite Dr. Wilmut's declaration that human cloning is totally unacceptable, technically difficult and extremely dangerous. Advanced Cell Technology, Inc. in Worcester, Massachusetts again stirred public debate when it announced on November 24, 2001 that it had successfully cloned human embryos. A year later, a spokesperson for Clonaid and the religious sect known as the Raëlians announced the scientifically unconfirmed birth of the world's first human clone. Most recently, the safety of human cloning was again called into question when news arrived that Dolly survived only half her


3 See Talbot, supra, note 2, at 44.

4 Scientific Discoveries in Cloning: Challenges for Pub. Policy: Hearing Before the Subcomm. On Pub. Health and Safety of the Senate Comm. on Labor and Human Res., 105th Cong. 22 (1997) (Statement of Dr. Ian Wilmut); Andrews, supra note 1, at 208 (noting reproductive technologies are being offered without sufficient thought about their impact or desirability). Reproductive technologies tend "to be adopted as a matter of course once they become technically feasible, without a careful assessment of the ethical issues involved." Id. at 234 (quoting geneticist Angus Clarke).


6 Chemist Claims First Cloned Human, MSNBC News Servs. (Dec. 27, 2002) (claiming first place in the race to produce a human clone). The spokesperson, Brigitte Boisselier, head of Clonaid, would not reveal the names of the parents or where the baby was born. Id. She claimed that a thirty-one year old American woman whose husband is infertile gave birth to a clone of herself. Id. She did not present DNA evidence, leaving her claim scientifically unsupported. Id.
expected lifespan. At age six, scientists euthanized the world’s first cloned mammal after discovering that she had progressive lung disease.

Although the United States House of Representatives voted to ban human cloning in the summer of 2001 and attached penalties of up to ten years in prison and a one million dollar fine for those convicted of attempting to do so, the United States Senate never addressed the issue; thus, it never became law. As a result, human cloning remains largely unregulated. In response to Clonaid’s announcement, President George W. Bush is pushing Congress to ban human cloning. If human cloning is legally banned, opponents will undoubtedly challenge the ban on constitutional grounds as a violation of the right to procreative liberty. This article proposes how to overcome that challenge.

This article addresses the constitutional, social, and moral issues associated with a society facing the use of human cloning as

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8 Id. Dr. Wilmut thinks Dolly’s death was unrelated to the fact that she was a clone because a sheep in the same vicinity as Dolly died of the same condition two years earlier and may have infected Dolly. Id. It remains uncertain, however, whether Dolly aged quicker because she inherited the cellular age of the six-year old donor cell used to clone her. Id. Dolly will be stuffed and displayed at the National Museum of Scotland. Id.
9 H.R. 2505, 107th Cong., 1st Sess. (2001); Human Embryo Created Through Cloning, supra note 5 (noting human cloning legislation). The U.S. Senate was supposed to take up the issue in early 2002. See Cibelli, supra note 5, at 49.
11 See Chemist Claims First Cloned Human, supra note 6 (noting that despite skepticism, Congress still needs to ban human cloning).
12 See infra Part IV (analyzing arguments for and against the constitutionality of the use of cloning as a reproductive option).
13 See infra Part IV (proposing why reproductive cloning is beyond the realm of the constitutional right to procreative liberty).
a reproductive option. Part II introduces the debate over human cloning and existing reproductive technologies, the parties involved, and the potential risks. Part III presents and categorizes various Supreme Court's (Court) "right to privacy" decisions that created and established a right to procreative liberty. Part IV analyzes the scope of the Court's declared "right of the individual . . . [to decide] whether to bear or beget a child" and analyzes whether that right should extend to the use of human cloning as a reproductive option. The foundation of the argument lies in distinguishing the use of cloning as a reproductive option from existing reproductive technologies that have been granted constitutional protection, proving that human cloning extends beyond the realm of the constitutionally protected right to procreative liberty. Part V concludes that this argument may be used to combat the contention that a ban on human cloning is unconstitutional.

II. FACTS

A. What is Human Cloning?

Human cloning requires a successful somatic cell nuclear transfer, a process by which an enucleated donor egg cell is fused

14 See infra Part IV (analyzing whether human cloning falls within the constitutionally protected right to procreative freedom).
15 See infra Part II (detailing the facts of the public debate over human cloning).
16 See infra Part III (examining the history of human cloning and the constitutionally established right to procreative liberty).
19 See infra Parts IV, V (arguing that human cloning falls outside the constitutionally protected right to procreative liberty).
20 See infra Part V (summarizing how to legally uphold a human cloning ban).
with the nucleus from an adult human body cell. The resulting embryo is implanted and gestated in the uterus of a surrogate mother. Essentially, cloning produces a later-born twin of a previously or currently existing individual. Unlike natural twins, "clones" are not one hundred percent genetically identical because the cloning process requires the fusion of an enucleated donor cell containing its own mitochondrial DNA with the nucleic DNA from another cell to create a slightly varied genetic code. The donor cell's mitochondrial DNA comprises approximately five percent of the clone's genes. Additionally, gestating clones in different uteruses may cause them to develop differently, so that they may not appear identical.

B. Existing Methods of Assisted Reproduction

More than 177,000 American babies have been born from assisted reproductive technologies. Artificial insemination is the oldest and most common form of assisted conception. It leads to childbirth in about forty percent of women who undergo this procedure. Artificial insemination is used to treat male infertility

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21 Talbot, supra note 2, at 44.  
22 Id. at 45.  
24 Id. (explaining the disparity between naturally occurring and cloned twins).  
26 Id.  
29 Id. at 59.
by injecting semen from the recipient’s husband or an anonymous donor directly into the woman’s uterus.\textsuperscript{30}

\textit{In Vitro Fertilization} (IVF) was the first means of assisted reproduction that involved fertilization outside of a woman’s body.\textsuperscript{31} IVF also represented the first time a gestational mother, acting as a surrogate, could give birth to a genetically unrelated child.\textsuperscript{32} The IVF process involves removing eggs from a woman’s body, fertilizing them with sperm in a petri dish, and transferring a few embryos into a woman’s uterus with the goal of successful implantation and pregnancy.\textsuperscript{33} IVF was introduced into the United States in 1981, and between 1985 and 1998, over 91,000 babies were born from the procedure.\textsuperscript{34}

Gamete Introfallopian Transfer (GIFT) is identical to IVF except that fertilization occurs in the fallopian tube instead of in a petri dish.\textsuperscript{35} Eggs are removed from the woman’s body and then transferred with semen into the fallopian tube, where fertilization naturally occurs.\textsuperscript{36}

Finally, doctors began offering intracytoplasmic sperm injection (ICSI) in 1993 in situations where the male partner has a low sperm count.\textsuperscript{37} In ICSI, the woman’s eggs are harvested the same way as they are in IVF and the eggs are then directly injected \textit{in vitro} with the sperm.\textsuperscript{38}

\begin{itemize}
\item \textsuperscript{30} Id. AIH is insemination with the husband’s sperm and AID is insemination with a donor’s sperm. Id.
\item \textsuperscript{31} Id. at 60. Louise Brown was the first “test tube baby,” resulting from successful IVF in England in 1978. Id.
\item \textsuperscript{32} Annas, supra note 2, at 253. An IVF child can have up to five parents. Id.
\item \textsuperscript{33} McAllister, supra note 28, at 60-61.
\item \textsuperscript{34} \textit{Frequently Asked Questions About Infertility}, supra note 27. The average live delivery rate for IVF was 29.1 percent per retrieval in 1998. Id. Time will tell whether children created through IVF will have trouble reproducing. Andrews, supra note 1, at 209.
\item \textsuperscript{35} McAllister, supra note 28, at 63.
\item \textsuperscript{36} Id.
\item \textsuperscript{37} Andrews, supra note 1, at 210.
\item \textsuperscript{38} Id. ICSI changed the notion that it would be unethical to subject a fertile woman to the egg retrieval rigors of IVF to combat her husband’s infertility. Id. According to studies in Belgium and Australia, children created by ICSI
C. The Infertility Market Factor

Infertility is defined as "[t]he inability to conceive after a year of unprotected intercourse in women under thirty-five, or after six months in women over thirty-five, or the inability to carry a pregnancy to term." Infertility affects about 6.1 million Americans, or ten percent of the reproductive age population. Infertile couples' desperation to have biologically related children is propelling the fertility industry to expand at a remarkable rate. Couples can spend up to $200,000 to achieve a single pregnancy, which fuels the two billion dollar per year industry and makes infertility specialists the highest paid physicians in America. Market forces also contribute to the increased push for the legal use of human cloning as a reproductive option and simultaneously eliminate the ethical barriers surrounding its controversial use.

D. Why Attempt to Clone Humans?

Although ten percent of Americans of reproductive age are considered infertile, only twenty percent of infertile couples successfully reproduce through existing reproductive technologies. Many infertile couples who successfully reproduce are twice as likely to have major chromosomal abnormalities than children who are conceived naturally. Id. at 210-11.


Frequently Asked Questions About Infertility, supra note 27.

Id. at 220. While every state regulates adoption, only Florida, Virginia and New Hampshire regulate assisted reproductive technologies. Id.

Andrews, supra note 1, at 48 (noting that experienced infertility specialists make an average of $625,000 per year).

Id. at 220. While every state regulates adoption, only Florida, Virginia and New Hampshire regulate assisted reproductive technologies. Id.

Annas, supra note 2, at 258 (discussing how market forces shape demand for and uses of new reproductive technologies); Andrews, supra note 1, at 208 (stating that reproductive technologies are usually implemented once technology is feasible without sufficient regard to ethical issues).

Eibert, supra note 25.
are compelled to use donated eggs or sperm.\textsuperscript{45} The lure of human cloning as a potentially superior and preferable method to alternative reproductive options stems from its prospective, unique ability to create a genetically related child without third party donor involvement.\textsuperscript{46} Completely infertile couples in which both partners are medically unable to produce viable sperm and eggs, and lesbian couples, for example, could utilize the cloning option to conceive a genetically related child without that child bearing any genetic relationship to a third party, as is the case with gamete donation.\textsuperscript{47} Eliminating a third party would prevent complications that frequently arise when a third party wishes to parent or otherwise get involved in the child’s life.\textsuperscript{48} Cloning would represent a first for same-sex reproduction, as it would grant lesbian couples the ability to reproduce without male participation. A third group who would potentially elect human cloning are those otherwise fertile couples with serious genetic disorders who choose to forgo other available options such as embryo selection or gamete donation and elect human cloning to produce their own healthy genetically related child.\textsuperscript{50}

\textsuperscript{45} Id.
\textsuperscript{46} Note, Human Cloning and Substantive Due Process, 111 Harv. L. Rev. 2348, 2349-50 (1998).
\textsuperscript{47} Talbot, supra note 2, at 67. A completely infertile couple is a couple in which the woman cannot produce eggs because of the lack of ovaries and where the man fails to produce sperm because his testicles have failed to develop or have been removed. Ronald M. Green, I, Clone, Sci. Am., Sept. 1999 (last visited Sept. 26, 2001), at http://www.sciam.com/article.cfm?articleID=000329A6-CE72-1CFB-93F6809EC5880000&pageNumber=2&catID=9 (describing desire for the use of human cloning to create a genetically related child).
\textsuperscript{48} Talbot, supra note 2, at 67.
\textsuperscript{49} Andrews, supra note 23, at 649.
\textsuperscript{50} Talbot, supra note 2, at 67; Human Cloning and Substantive Due Process, supra note 46, at 2350. People want to clone solely so that they can assure a child’s genetic composition. Andrews, supra note 23, at 654 (detailing cloning’s potential psychological impacts). For these couples, cloning may represent the only manner in which they would be willing to carry on their genes. Id. at 647-48.
apparent clone-seekers are the aggrieved who advocate cloning as a means of "replacing" a deceased loved one. The Raelians' project called Clonaid, for example, receives calls from parents of deceased children who have frozen their children's tissue in the hope that someday cloning of the dead will be possible.

E. The Risks

There are many physical risks inherent in trying to clone a human being. Human cloning requires that the differentiated DNA of the adult cell's nucleus be deactivated and then reactivated, which creates the possibility of creating new mutations or otherwise damaging the DNA. There is also concern that a clone may inherit the cellular age of the nucleus donor, thus predisposing the clone to premature aging and cancer. In addition, cells develop mutations as they age and since an adult cell is used in the cloning procedure, the mutations already present in that cell would manifest themselves in all of the clones' cells.

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51 Talbot, supra note 2, at 43.
52 Id.
54 Id. at 650. An adult cell has a full complement of genes, only some of which are activated. Id. Activating the genes that are turned off may reveal hidden mutations. Id. The high rate of death in animal cloning experiments suggests that cloning may damage cell DNA.
55 Andrews, supra note 23, at 650-51. Scientists are not certain whether Dolly inherited the cellular age of her six-year-old progenitor or her own genetic clock. Id. at 650. Dolly's life may have been shortened because the tips of her chromosomes, or her telomeres, which shrink as cells grow older, were shorter than normal for her age. See Green, supra note 47. Further supporting the premature aging theory is the fact that Dolly had arthritis at age five and a half in her left hind leg at the hip and the knee. Cloned Dolly Has Arthritis, CNN (Jan. 4, 2002), at http://www.cnn.com/2002/TECH/science/01/04/cloning.dolly/index.html. An investigation into Dolly's death in February 2003 from advanced lung cancer may confirm scientists' earlier theories that Dolly inherited the cellular age of the nucleus of the donor used to create her. See Coghlan, supra note 7.
Furthermore, current experiments in animal cloning result in gross deformities, such as calves born with disease and abnormally large hearts, which seriously impede trials in human cloning. Dr. Wilmut notes that "with people, the possibility of failures, many of which would involve miscarriages, sounds horrific and raises huge ethical barriers." Because of this high degree of risk, it may never be ethical or justified to clone humans.

If the application of cloning is successful in humans, additional psychological risks to the cloned child may manifest themselves throughout his or her life. Cloning would dramatically alter the traditional family relationship by introducing a later-born twin into the family. If a clone were created from a dead child, the parents' expectations would be undermined even though that clone was unique, despite a similar physical appearance. A clone's sense of self and autonomy would also be seriously undermined if he was created to replace a deceased sibling.

On a much broader societal scale, cloning, if widely implemented, could interfere with evolution by promoting genetic uniformity and thus decreasing resistance to disease.
Furthermore, if cloning becomes a widespread and routine procedure, people could be cloned without their consent or knowledge since it only requires one cell, which can be obtained from hair or saliva.\footnote{Orentlichter, \textit{supra} note 56, at 1025.}

\section*{III. HISTORY}

\textbf{A. The History of Human Cloning}

Human cloning has long been the fodder of science fiction, manifesting itself as the plot in several books and films.\footnote{Annas, \textit{supra} note 2, at 254-55 (mentioning human cloning literature and films). Literary examples include Aldous Huxley's \textit{BRAVE NEW WORLD}, Ira Levin's \textit{THE BOYS FROM BRAZIL}, and Fay Weldon's \textit{THE CLONING OF JOANA MAY}. \textit{Id.} at 255. \textit{BLADE RUNNER} (Warner Studios 1982), \textit{SLEEPER} (MGM/UA Studios 1973), \textit{THE BOYS FROM BRAZIL} (Artisan Ent. 1978), \textit{MULTIPLICITY} (Columbia/Tristar Studios 1996), \textit{JURASSIC PARK} (Universal Studios 1973), and \textit{GATTICA} (Columbia/Tristar Studios) are popular films. \textit{Id.} at 254. In 1994, the National Institutes of Health (NIH) Human Embryo Research Panel Report dismissed human cloning in a footnote declaring that "[p]opular notions of cloning derive[d] from science fiction books and films . . . have more to do with cultural fantasies than actual scientific experiments." \textit{Id.} at 250.}

In 1997, however, when the news of Dolly arrived on the front pages of newspapers and on television, human cloning made the leaping transition from science fiction to potential reality.\footnote{Id. at 257. "Until a few years ago, would-be cloners had little to encourage them . . ." Talbot, \textit{supra} note 2, at 44.}

In June 1997, public reaction, mixed with fascination and horror, prompted President Bill Clinton to sign a five-year ban on the use of federal funds for human cloning research.\footnote{\textit{Cloning Human Beings}, NAT'L BIOETHICS ADVISORY COMM'N (June 1997), at http://www.georgetown.edu/research/nrcbl/nbac/pubs.html; Andrews, \textit{supra} note 23, at 675 (discussing constitutional justification for the Cloning Prohibition Act of 1997). The legislative proposal cited safety and ethics concerns as well as the effect of cloning on interstate commerce as justifications for the ban. \textit{Id.}} Before the option to use human cloning for reproductive purposes existed, four states passed laws against it to highlight the potential dire implications of
this risky method of reproduction. In addition, the National Institutes of Health (NIH) declared human cloning research ineligible for NIH funding in its stem cell research guidelines. Somatic cell cloning is the first technique that the American Society for Reproductive Medicine (ASRM) has ever opposed. Despite the bans and the risks, adamant support for the advance of human cloning is found in radical private organizations such as the Raëlians, who claim 55,000 members worldwide that strive for everlasting life created through technology and in certain rogue scientists like Dr. Severino Antinori, who boasted in March, 2001 that he would clone a human within a year.

**B. The Constitutionality of Reproductive Rights**

The right of privacy, derived from the liberty principles guaranteed under the Fifth and Fourteenth Amendments, encompasses the right to procreative liberty which has been established in a long line of the Court’s decisions. Currently, all existing methods of assisted reproduction are afforded some degree of constitutional protection under a broad interpretation of

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69 Talbot, *supra* note 2, at 40.
71 Annas, *supra* note 2, at 265.
72 Talbot, *supra* note 2, at 42. The Raëlians were founded by a French-born man named Raël in 1973 who claims he heard a message that humans were created in a laboratory by aliens who were masters of genetics. *Id.* at 63. Their project is called “Clonaid” and the group is based in Montreal. *Id.*
74 U.S. CONST. amend. XIV, § 1. “[N]or shall any State deprive any person of life, liberty, or property, without due process of law.” *Id.* The same language is reiterated in the Fifth Amendment. U.S. CONST. amend. V; see *infra* Parts III.C, III.D (discussing relevant Supreme Court cases).
reproductive rights derived from constitutional liberty principles.\textsuperscript{75} If human cloning were to become a feasible reproductive option, its constitutionality would also involve an examination of the liberty clauses of the Fifth and Fourteenth Amendments.\textsuperscript{76}

\textbf{C. The Right of Privacy: The Right to Prevent Procreation}

The right of privacy issue was first noted in \textit{Griswold v. Connecticut} in 1965, where access to contraceptives was considered part of the right of privacy inherent in the marital relationship.\textsuperscript{77} In 1972, the holding in \textit{Eisenstadt v. Baird} broadened this right of privacy to include single persons.\textsuperscript{78} \textit{Eisenstadt} declared that the right of privacy means that all persons should be free from governmental intrusion in their decision “whether to bear or beget a child.”\textsuperscript{79} The revolutionary \textit{Roe v. Wade} decision in 1973 further expanded the right to “encompass a woman’s decision whether or not to terminate her pregnancy.”\textsuperscript{80} Most recently, \textit{Planned Parenthood v. Casey} reaffirmed the previability abortion right established in \textit{Roe}.\textsuperscript{81} \textit{Griswold}, \textit{Eisenstadt}, \textit{Roe}, and \textit{Planned Parenthood} all established a right

\textsuperscript{75} See infra Parts III.C, III.D (explaining constitutional derivation of the right of privacy).

\textsuperscript{76} Human Cloning and Substantive Due Process, supra note 46, at 2353.

\textsuperscript{77} 381 U.S. 479, 485-86 (1965) (holding that statute prohibiting the use of contraceptives was unconstitutional). Justice Douglas opined that a right of privacy was inherent in the Bill of Rights, such as in the First Amendment’s freedom of association, the Fourteenth Amendment’s protection from unreasonable searches and seizures, the Fifth Amendment’s self-incrimination protection, and in the Ninth Amendment’s retention of unenumerated rights by the people. \textit{Id.} at 484; see Massie, supra note 18, at 148.

\textsuperscript{78} \textit{Eisenstadt}, 405 U.S. at 453 (invalidating statute on equal protection grounds that forbade the distribution of contraceptives to unmarried persons).

\textsuperscript{79} \textit{Id.}

\textsuperscript{80} 410 U.S. 113, 153 (1973).

not to procreate or not to bear a child by providing constitutionally protected access to contraception and abortion.\textsuperscript{82}

\textbf{D. The Right of Privacy: The Right to Procreate}

Also inclusive in the right of privacy cases are those decisions that implicitly reflect a right to procreate, and to be free from governmental intrusion in making decisions about procreation.\textsuperscript{83} As far back as 1942, the decision in \textit{Skinner v. Oklahoma} invalidated an Oklahoma statute that provided the sterilization of some three-time felons and recognized in dictum the fundamental right to procreate as “one of the basic civil rights of man” and declared that “marriage and procreation are fundamental to the very existence and survival of the race.”\textsuperscript{84} The Court, however, has never explicitly defined a positive right to procreate.\textsuperscript{85}

Judge Williams in \textit{Lifchez v. Hartigan} implied a positive right to procreate based on \textit{Roe} and \textit{Casey} by stating that “[i]t takes no great leap of logic to see that within the cluster of constitutionally protected choices that includes the right to have access to contraceptives, there must be included within that cluster the right to submit to a medical procedure that may bring about, rather than prevent, pregnancy.”\textsuperscript{86} Arguing that the right to make procreative

\textsuperscript{82} Massie, \textit{supra} note 18, at 148-49.
\textsuperscript{83} \textit{Id}.
\textsuperscript{84} 316 U.S. 535, 541 (1942).
\textsuperscript{85} Massie, \textit{supra} note 18, at 150-51; \textit{see also} Cleveland Bd. of Educ. v. LaFleur, 414 U.S. 632, 639 (1974). Justice Stewart cited \textit{Eisenstadt} to imply support for an expanded reproductive right that includes not only a right to prevent procreation but also the right to procreate in a decision which held that a school district’s extended maternity leave policies were unconstitutional. Massie, \textit{supra} note 18, at 151 (analyzing \textit{Cleveland Bd. of Educ}).
\textsuperscript{86} 735 F. Supp. 1361, 1377 (Ill. N. Dist. Ct. E. Div., 1990) (declaring the ban on embryo experimentation unconstitutional for vagueness because the
decisions includes the right of an infertile couple to have access to assisted reproduction, including IVF and the use of a donated embryo, she determined that the same constitutional right applies to bringing about and preventing pregnancy. The impact of this non-binding decision remains unclear, but it is useful because it illustrates the kind of reasoning that could be implemented in future court decisions.

**E. Limits to the Right of Privacy**

The Court has defined limits to the constitutionally protected right of privacy by excluding those liberties that are not "deeply rooted in this Nation's history and tradition." Fundamental rights such as the right of privacy are not absolute, and regulations limiting these rights are justified when there is a "compelling state interest." Furthermore, any limitation on a fundamental right must be narrowly drawn to express a legitimate

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statute did not define the terms "experimentation" and "therapeutic." It also infringed upon a woman's fundamental right to privacy).

87 Andrews, supra note 23, at 665 (examining Lifchez).

88 Bowers v. Hardwick, 478 U.S. 186, 191-92 (1986) (upholding state prohibition against homosexual sodomy). The Court refused to include homosexual behavior in the freedom of intimate association, claiming that sodomy had long been considered a criminal offense and that such behavior could not be considered a "fundamental libert[y] . . . deeply rooted in this Nation's history and tradition." Id. at 192 (quoting Moore v. City of E. Cleveland, 431 U.S. 494, 503 (1977); Washington v. Glucksberg, 521 U.S. 702, 719-20 (1997) (rejecting the right to physician assisted suicide, declaring that it is not firmly rooted in historical and legal traditions). "That many of the rights and liberties protected by the Due Process Clause sound in personal autonomy does not warrant the sweeping conclusion that any and all important, intimate, and personal decisions are so protected, and Casey did not suggest otherwise." Id. at 727-28; but see David G. Savage, Precedential Veto, A.B.A. J. 26, 28 (Mar. 2003) (noting that Bowers is likely to be overruled when the Supreme Court re-examines sodomy laws in Lawrence v. Texas, 123 S. Ct. 953 (2002)). The Bowers decision is a widely discredited precedent. Id.

Kramer v. Union Free Sch. Dist., 395 U.S. 621, 627 (1969); Shapiro v. Thompson, 394 U.S. 618, 634 (1969); Sherbert v. Verner, 374 U.S. 398, 406 (1963). In Roe, the compelling state interests were "interests in
Such constitutional limitations cast a compelling shadow of doubt on whether the use of human cloning as a reproductive option will be afforded constitutional protection, even if the technology becomes feasible and safe and the Court decides to broaden privacy protections to include the affirmative right to bear a child. 91

IV. ANALYSIS

In general, commentators adhere to the principle and legal trend that constitutional protection will be afforded to any new reproductive technology. 92 They argue that a ban on human cloning is unconstitutional because it infringes on the right to procreate encompassed in the liberty clauses of the Fifth and Fourteenth Amendments. 93 This is true to the extent that human cloning is considered a method of reproduction and a method that can be clustered with other constitutionally protected reproductive technologies. 94 The argument that a ban on human cloning is unconstitutional fails, however, if it is argued and proven that cloning is not reproduction at all; 95 or to the extent that cloning is reproduction, it is argued and proven that it is distinguished from safeguarding health, in maintaining medical standards, and in protecting potential life.” Roe, 410 U.S. at 165. These interests permitted states to restrict abortions post-viability. Id. at 183.

Griswold, 381 U.S. at 485; Aptheker v. Sec’y of State, 378 U.S. 500, 508 (1964); Cantwell v. Conn., 310 U.S. 296, 307-08 (1940); Eisenstadt, 405 U.S. at 463-64.

See infra Parts IV, V (discussing whether human cloning as a reproduction option will be afforded constitutional protection).

See supra notes 85-86 and accompanying text (discussing Lifchez and granting all reproductive technologies the same protection under the same constitutional right).

Andrews, supra note 23, at 665 (noting that under the Lifchez logic, the right to create a child through cloning would be constitutionally protected).

See infra Parts IV.B-G (questioning human cloning as a method of reproduction and distinguishing it from existing reproductive technologies).

See infra Part IV.B (arguing that human cloning is replication and not reproduction).
existing reproductive technologies because it falls outside the realm of the constitutionally protected right to procreative liberty.  

A. Introduction to the Constitutional Analysis

Commentators tend to combine all potential reproductive technologies under one constitutionally protected umbrella. Judge Williams in Lifchez, for example, argues that within the cluster of constitutionally protected choices of the right to have access to contraceptives is also the right to submit to a medical procedure that may bring about, rather than prevent, pregnancy. Based on that line of reasoning, if cloning were successfully attempted in humans, it would automatically offer an alternate method of bringing about pregnancy and be protected as such under the established constitutionally protected right to procreative liberty.

John A. Robertson, in Children of Choice, also broadly groups technologies that assist in reproduction, noting that "[a]lthough [a] full genetic reproduction might not exist in each case, the interest of the couple in rearing children who are biologically related to one or both rearing parents is so close to the coital model that it should be treated equivalently." Robertson's logic also suggests that if human cloning were successful, it would constitute another method of noncoital reproduction that deserves the same constitutional protection afforded to the coital model.

96 See infra Part IV.E and accompanying text (distinguishing human cloning from existing reproductive technologies).
97 See supra notes 85-86 and accompanying text (suggesting that methods which bring about and prevent pregnancy should be protected by the same constitutional right).
98 Lifchez, 735 F. Supp. at 1377.
99 See supra notes 85-86 and accompanying text (suggesting that methods to conceive and prevent pregnancy should be protected by the same constitutional right).
101 Massie, supra note 18, at 152-53.
This logic does not hold true. The fact that the ultimate goal in all assisted reproductive scenarios is to achieve pregnancy does not mean that all methods of noncoital reproduction should receive the same degree of constitutional protection as coital reproduction. Human cloning is not simply a reproductive technology that can or should be clustered with the rest.

**B. Human Cloning and Reproduction**

Human cloning eludes the fundamental aspects of human reproduction and therefore should not be granted constitutional protection under any perceived interpretation of the right to reproduce. First, human cloning, unlike all other protected methods of reproduction including sexual reproduction, artificial insemination, IVF and GIFT, does not require "the union of an egg and sperm from two human beings of the opposite sex." Rather, cloning sidesteps the need for gametes, and permits the creation of a new person with the genetic material from any single human cell.

So-called reproduction without gametes is more similar to asexual reproduction or replication than to any form of reproduction that is currently constitutionally protected. As health law professor George Annas of Boston University argues, cloning is synonymous with an evolutionary dead end, replicating, but not improving, what already exists.

In addition to sidestepping the need for a union between sperm and egg, human cloning also eludes a historical fundamental

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102 See infra Parts IV.C-E (distinguishing cloning as a noncoital method of reproduction from all other existing methods).
103 Massie, supra note 18, at 152-53.
104 See infra Parts IV.B-G (arguing that human cloning falls outside the constitutional realm of the right to procreative liberty).
105 See infra notes 102-10 and accompanying text (explaining how cloning eludes the fundamental aspects of reproduction).
106 Annas, supra note 2, at 253.
107 Orentlicher, supra note 56, at 1019.
108 Id.
109 Annas, supra note 2, at 256.
aspect of reproduction by rendering the age of the genetic parent irrelevant.\footnote{See infra notes 110-12 and accompanying text (explaining the lack of need for a genetic parent of reproductive age in human cloning).} Although the procedure requires a woman of reproductive age to act as a gestational surrogate, human cloning permits the production of a genetically related child from, for example, a ninety-year-old woman or from a two-year old toddler.\footnote{Talbot, supra note 2, at 40 (explaining how dead babies’ mothers store frozen tissue in case human cloning ever becomes possible). This dead baby would be the genetic parent of the cloned infant. Id.} The genetic twin of a clone technically could be any age and even be dead.\footnote{Andrews, supra note 23, at 652} As a result, human cloning blurs generational lines, which is a characteristic that distinguishes it from all other constitutionally protected methods of reproduction.\footnote{Id.}

The fact that human cloning circumvents the need for the union of sperm and egg and renders reproductive age irrelevant suggests that the procedure cannot be categorized as reproduction or protected as such.\footnote{See supra Part IV.B (distinguishing cloning procedure).} Constitutional liberty rights do not encompass a right to replicate or a right to be cloned.\footnote{Annas, supra note 2, at 253-61.} Cloning deviates so far from existing methods of reproduction that it leaves the realm of protected reproductive choice.\footnote{Robertson, supra note 100, at 169.}

\section*{C. Human Cloning and Incest}

Human cloning is more comparable to incest than to existing reproductive technologies.\footnote{See infra Part IV.C (analogizing cloning and incest).} Human cloning and incest are methods of reproduction that produce offspring with such similar genetic material that the lines of generation are blurred.\footnote{See supra notes 23-26 and accompanying text (explaining genetic correlation between clones).} Generational lines mingle through incest when a child’s father
could also be his uncle, and through human cloning, when a child’s mother could also be considered her identical twin.\textsuperscript{119} As a method of reproduction, incest would seemingly implicate a constitutional analysis under the right to reproduce.\textsuperscript{120} As Lori Andrews notes, “reproductive privacy and liberty are threatened as much by a ban on incest as by a ban on cloning.”\textsuperscript{121} However, although incest is a form of reproduction, it is banned without constitutional challenge.\textsuperscript{122} Perhaps it is banned because of the potential social harms or physical risks to children conceived through incest.\textsuperscript{123} The same potential social and physical harms can be applied to children produced through human cloning.\textsuperscript{124} Is there something inherently wrong with human cloning that compels our instinct to tell us that it, like incest, does not even warrant constitutional analysis?\textsuperscript{125}

\textbf{D. Human Cloning and Constitutional Protection}

If human cloning represented the only way some individuals could reproduce, then it would have to be constitutionally protected so that these persons would not be denied their right to procreative liberty.\textsuperscript{126} The three primary target categories used to justify the development of human cloning as a method of reproduction, however, all have alternatives.\textsuperscript{127} First,

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\textsuperscript{119} Andrews, \textit{supra} note 23, at 669.
\textsuperscript{120} \textit{See supra} Parts II.C.D, III.D (discussing constitutionally established right to procreative liberty).
\textsuperscript{121} Andrews, \textit{supra} note 23, at 669.
\textsuperscript{122} \textit{Id.}
\textsuperscript{123} \textit{Id.} at 255 (discussing potential risks to offspring resulting from incest such as lethal recessive disorders). Andrews suggests that incest is banned not because of the potential risks to offspring, but “[that] it allows an exercise of excessive power of parents over children.” \textit{Id.}
\textsuperscript{124} \textit{Id.; see supra} Part II.E (discussing risks inherent in human cloning).
\textsuperscript{125} Andrews, \textit{supra} note 23, at 669.
\textsuperscript{126} Eibert, \textit{supra} note 25 (promoting constitutional protection for human cloning).
\textsuperscript{127} \textit{See supra} Part II.D (discussing groups that might desire human cloning).
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completely infertile couples can use donor gametes to form an embryo and subsequently gestate the resulting embryo in the woman or in a surrogate. Second, lesbian couples can impregnate themselves with donor sperm. Lastly, couples with serious genetic mutations can take a chance, substitute either gamete with a donor sperm or egg, or genetically test embryos in vitro for the feared mutation. Since rearing a child by existing means is feasible in every scenario in which human cloning might be desirable, human cloning is not medically necessary and does not need to be constitutionally protected. Even in the absence of the availability of the use of cloning as a reproductive option, every woman in America will still be able to “bear and beget” a child if that is her choice. No one will be denied any rights for the lack of human cloning.

E. Human Cloning Distinguished

Although rearing a child by existing means is feasible in every potential scenario, rearing a genetically related child may only be possible for some couples if they use human cloning. Therefore, despite the extensive alternatives, human cloning may still be attractive to some couples as a means of producing a genetically related child. A chance to use human cloning, however, merely serves to create a need for couples to have a genetically related child, whereas existing reproductive technologies assist the infertile who have a present need for

128 See supra Part II.B (explaining the existing methods of reproduction).
129 Green, supra note 47 (discussing reproductive options for lesbian couples); see supra notes 28-30 and accompanying text (discussing artificial insemination).
130 Green, supra note 47 (discussing present alternatives to human cloning).
131 Annas, supra note 2, at 261.
132 See supra Part II.B (explaining alternative assisted reproductive methods).
133 Annas, supra note 2, at 262.
134 See Eibert, supra note 25. If neither partner produces viable gametes, for example, they are unable to produce a genetically related child through existing methods of assisted conception. Id.
135 Talbot, supra note 2, at 40.
assistance in reproduction. Furthermore, no Court decision thus far has suggested that the constitutional right of privacy encompasses a right to bear and beget a genetically related child. In fact, no decision has even explicitly guaranteed a right to procreate, which makes it a stretch to interpret the right of privacy to also include the right to produce a genetically related child, through human cloning or otherwise. While these Court decisions may protect the right to attempt to procreate, they certainly do not guarantee a desired end. Moreover, the Court will not protect a liberty interest, such as an interest in using human cloning as a reproductive option that is not “deeply rooted in this nation’s history and tradition.”

F. Human Cloning and Infertility

As George Annas eloquently notes, “[t]reating infertility by using the new reproductive technologies has become a multimillion dollar business that is itself dominated not by the medical ideology of the best interests of the patients and their children, but by the market ideology of profit maximization under the guise of reproductive liberty.” The argument that human cloning will offer a treatment for infertility, however, is baseless, demonstrating that researchers cannot simply mask the advancement of the technology behind the notion of reproductive

Andrews, supra note 1, at 256. Existing technologies permit couples to “make up for a missing ingredient in the normal reproductive process.” Id. Cloning a child creates a need that does not fit into the “existing category of woman’s reproductive choice.” Id.; see also Annas, supra note 2, at 261.

Andrews, supra note 1, at 229 (noting “there is no ‘right’ to carry on one’s lineage”). Andrews explains that parents, for example, cannot force their children to have children. Id.

See supra Part III.D (discussing cases pertaining to an implicit right to procreate).

See supra Parts III.C-D (discussing cases pertaining to procreation).

Bowers, 478 U.S. at 192.

Annas, supra note 2, at 272.
liberty. First of all, two out of three of the target categories of individuals who researchers claim would benefit from human cloning are technically fertile, including lesbian couples and couples with serious genetic mutations. Human cloning merely creates another procreative option for these individuals to have a genetically related child. It also cannot be justified as a medically necessary treatment for completely infertile couples since they too have alternatives such as using donor gametes.

Although human cloning represents the only way that couples could have a genetically related child, there is no constitutionally protected right to bear a genetically related child. As long as their right to attempt to procreate using donor gametes is protected, completely infertile couples cannot be denied their right to attempt to reproduce.

Following this reasoning, the argument that "cloning technology will offer the only way possible" for many Americans to "exercise their right to reproduce" unjustifiably expands this right to include the right to produce a genetically related child, when no such right exists in our legal system. The argument also casually overlooks the numerous means of bearing and begetting a child, either half-related or unrelated, by assuming that the cloning technology will offer the only possible way for some Americans to reproduce.

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142 Id. (noting market domination over infertility and how progress is masked under the guise of reproductive liberty).
143 See supra Part II.D (discussing categories of people interested in human cloning).
144 Annas, supra note 2, at 250.
145 See supra Part IV.D (explaining how infertile couples can exercise their right to reproduce through the use of donor gametes).
146 See supra notes 139-41 and accompanying text (explaining that there is "no right to carry on one’s [own] lineage").
147 See supra notes 131-33 and accompanying text (noting that no one will be denied any rights if the use of human cloning as a reproductive option is not practiced).
148 Eibert, supra note 25; Andrews, supra note 1, at 229 (noting that there is not a "right to carry on one’s [own] lineage").
149 See supra Part II.B (discussing existing methods of reproductive technology); see also supra notes 127-30 (discussing alternatives for those targeted to benefit from human cloning).
Some argue that cloning does not even address the medical definition of infertility, which is based on reproductive age and an inability to reproduce through sexual intercourse. Since the nature of human cloning defies the defining aspects of infertility that includes the union of egg and sperm and the involvement of a woman of reproductive age, it cannot be considered a treatment for infertility. As George Annas suggests, since cloning permits a woman to replicate herself without male participation, it has nothing "inherently to do with infertile couples" wishing to reproduce.

**G. Human Cloning, Infertility and the Market Factor**

In light of all the hype, horror and fascination created by Dolly, we must ask ourselves, who really wants to clone human beings? The bottom line is that infertile couples who enter the world of assisted reproduction want a baby. Although successful human cloning would meet this end result of a baby, it could do so in a most twisted, complicated manner by replicating the genomes of existing people. For infertile couples, whether partially or completely infertile, there are far more attractive options such as IVF, artificial insemination, gamete donation, surrogacy, or adoption. Rather, it is the researchers who are driven by a potentially untapped lucrative market that push for the social acceptance of human cloning. They come up with plausible

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150 See supra note 39 and accompanying text (defining infertility).
151 See supra Part IV.B (arguing that human cloning is not reproduction).
152 Annas, supra note 2, at 254.
153 See supra notes 2 & 68 and accompanying text (explaining public reaction to Dolly).
154 Human Cloning and Substantive Due Process, supra note 46, at 2349 (declaring infertility a "social, biological and emotional tragedy").
155 Annas, supra note 2, at 256 (stating cloning "replicate[s] what already exists").
156 Id. at 267; see also supra Part II.B (discussing existing methods of assisted reproduction).
157 Annas, supra note 2, at 258.
reasons why human cloning is medically necessary and highlight categories of persons who benefit from this technology.\textsuperscript{158} As George Annas argues, "[m]edicine has become a business, and business ethics have eclipsed medical ethics.\textsuperscript{159}

Since human cloning arguably does not even address the medical definition of infertility and since infertile couples are not demanding the advancement of the technology, researchers must seek social justification for their cause elsewhere.\textsuperscript{160} Researchers derive their primary support from grieving parents who adhere to the false perception that cloning will replace a deceased child.\textsuperscript{161} The Raëlians are one such group that have money and demands from grieving families.\textsuperscript{162} What the Raëlians fail to accept is that each human is unique and therefore irreplaceable, which makes a quest to replace a human misguided.\textsuperscript{163} As Margaret Talbot notes, "[cloning] holds forth the promise of unprecedented control – manufacturing a human being who will share specific traits with a pre-approved model – but it cannot deliver."\textsuperscript{164} Despite the great demand, a promise to replace someone merely serves to exploit grief, has nothing do with infertility or reproduction, and will not be constitutionally protected as such.\textsuperscript{165}

V. CONCLUSION

Since the Court will only address existing constitutional issues and refuses to anticipate future constitutional questions, the

\textsuperscript{158} Id. at 260. When IVF was first introduced in 1981, it was only used to assist completely infertile couples, where now idiopathic infertility is “sufficient.”
\textsuperscript{159} Id. at 258.
\textsuperscript{160} Id. at 258-59.
\textsuperscript{161} Talbot, supra note 2, at 43.
\textsuperscript{162} Id. Clonaid receives calls from parents of children who have died and have frozen tissue from their children in the hope that someday, cloning the dead will be possible. Id.
\textsuperscript{163} Id.
\textsuperscript{164} Id.
\textsuperscript{165} Id.; see supra Part IV.F (arguing that human cloning does not apply to infertility or reproduction).
constitutionality of a ban on the use of human cloning as a reproductive option remains open for debate. With Clonaid’s recent announcement of the birth of the world’s first human clone, however, Congress is likely to soon enact a ban. That ban will undoubtedly be challenged as a violation of the constitutionally protected right to procreative liberty.

Lawyers will be challenged to present compelling arguments in an attempt to implement legal brakes on the use of human cloning as a reproductive option. For a favorable ruling, they will have to prove that human cloning is outside the realm of any constitutionally protected right. Lawyers could argue that the use of human cloning as a reproductive option does not warrant constitutional protection because alternatives exist in every scenario, thereby satisfying everyone’s right to procreative liberty as established in the courts’ decisions. The fact that human cloning would offer some couples the only way to rear a genetically related child is a moot point because no explicit right to procreate exists, nor does the broader right to rear a genetically related child.

Alternatively, lawyers could argue that human cloning is not reproduction at all and that it does not apply to infertility. First, human cloning arguably is replication rather than

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166 Massie, supra note 18, at 144.
167 Chemist Claims First Cloned Human, supra note 6 (reporting Clonaid’s claim and Congress’ imminent action).
168 See supra Part III (discussing the constitutionality of reproductive rights).
169 See supra Part IV (presenting arguments that human cloning falls beyond the realm of any perceived constitutional right to reproduce).
170 Id.
171 See supra Parts IV.D, IV.F (noting alternatives to human cloning exist for any type of person seeking to rear a child).
172 See supra Part IV.E (noting the right to rear a genetically related child does not exist).
173 See supra Parts IV.B (declaring that human cloning is replication rather than reproduction), IV.F (demonstrating why human cloning does not apply to infertility).
Secondly, it is a stretch to consider human cloning reproduction and therefore an even greater stretch to consider it a treatment for infertility.\textsuperscript{175}

To the extent that human cloning is reproduction, it is more akin to incest than to existing reproductive technologies that are constitutionally protected.\textsuperscript{176} Human cloning and incest are comparably repugnant forms of reproduction and neither warrant constitutional protection.\textsuperscript{177} Because human cloning eludes the fundamental aspects of reproduction, including the need for the union of sperm and egg and the need for a parent of reproductive age, it thereby clearly falls far outside any liberty that is “deeply rooted in this Nation’s history and tradition.”\textsuperscript{178}

If the Court embraces the foregoing arguments, it will uphold the constitutionality of the ban on human cloning, enabling society to continue criminalizing those who attempt to implement this risky and unnecessary procedure.\textsuperscript{179}

\textsuperscript{174} See supra Part IV.B (declaring that human cloning is replication rather than reproduction).

\textsuperscript{175} See supra Parts IV.B, IV.F (arguing that human cloning is not reproduction and that is does not apply to infertility).

\textsuperscript{176} See supra Part IV.C (comparing cloning to incest).

\textsuperscript{177} Id.

\textsuperscript{178} Bowers, 478 U.S. at 191-92; see supra Part IV.B (explaining how human cloning eludes the fundamental aspects of reproduction).

\textsuperscript{179} See supra Part II.E (highlighting the risks inherent in human cloning).