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REFLECTIONS ON HUMAN CLONING

*Lewis D. Solomon**

I. INTRODUCTION

I start from the premise that in the twenty-first century we will have perfected human cloning as a medical technique. Perhaps much sooner than any of us realize, we will see nearly identical genetic replicas of humans.¹

For purposes of this Essay, I assume that the human cloning process will be physically safe and that the genetic knockoffs, as children and adults, will be healthy. They will not age faster than normal or succumb prematurely to diseases of old age.² Based on this assumption, I conclude that neither state nor national governments (nor international bodies), should intervene, whether by regulation or outright prohibition, to stop what we will be capable of doing to help heterosexual or homosexual couples or individuals.

Human cloning offers a number of beneficent scenarios. It will help infertile couples or those facing a high risk of conceiving children

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1. See Michael Waldholz, *Cloning of Humans Grows Increasingly Possible*, WALL ST. J., Dec. 18, 1998, at B12. In fact, a group of South Korean scientists claimed that they already "cloned a human cell from an infertile woman, creating a four-cell embryo that theoretically could have grown into a genetically identical replica of the woman." Sheryl WuDunn, *South Korean Scientists Say They Cloned a Human Cell*, N.Y. TIMES, Dec. 17, 1998, at A12. The scientists stopped short of implanting the embryo into a woman to carry to term, thus making it uncertain whether the human embryo would have developed into a human fetus. See *id.* Moreover, while the data and research of the South Korean scientists has not been reviewed by other scientists, "experts in the United States said that . . . the requisite [cloning] techniques had been demonstrated in animals and that there was *no theoretical reason they could not be applied to people.*" *Id.* (emphasis added).

2. See GINA KOLATA, CLONE: THE ROAD TO DOLLY, AND THE PATH AHEAD 239-42 (1998) (discussing and disagreeing with the argument that a clone may have a life span only as long as that which the donor had left, and that the clone would be more likely to develop diseases such as cancer at a younger age because of the already mutated donor genes).

with one or more severe genetic diseases.³ This technique will also aid an infertile widow who wants to clone her dying only child.⁴

Moreover, cloning may be used to produce embryos to serve as tissue or organs for transplant.⁵ Take the situation of a woman dying of leukemia, whose only hope for survival is a bone marrow transplant. Cloning will enable physicians to take her skin cell nucleus and implant it in an enucleated human egg, resetting the cell's deoxyribonucleic acid ("DNA"). Once reset, the cell would become an embryonic stem cell. After the embryonic stem cells began to divide, they would be treated with hormones causing their development into marrow cells, which would then be returned to the patient.⁶

For others, these embryonic stem cells could be turned into healthy heart or liver cells and used to repair tissue damaged by a heart attack or hepatitis.⁷ If a disease were not genetic, the cloned cells would avoid a tissue mismatch thereby lessening, if not eliminating, many of the medical problems arising from organ transplants.⁸

Although numerous other possible scenarios exist, some of which I will discuss in this Essay, it seems unlikely that cloning will be used by dictators to perpetuate themselves, or to produce a warrior class to serve the purposes of the state or their own demented ends. Our most far-fetched fears should not drive policy making. Rather, in this Essay, I want to discuss four possible objections to human cloning necessitating a governmental ban or regulation, namely that human cloning: 1) is repugnant and immoral; 2) is contrary to human dignity; 3) will further

3. See LEON R. KASS & JAMES Q. WILSON, *THE ETHICS OF HUMAN CLONING* 16-17 (1998) (discussing the possible uses of human cloning once the technology is perfected).

4. See *id.*

5. See *id.* ("In anticipation of human cloning . . . possible uses of the perfected technology . . . include . . . securing a genetically identical source of organs or tissues perfectly suitable for transplantation . . ."). The destruction of viable embryos in the cloning process, whether as a source of organ or tissue transplants or the creation of fetuses, raises, among other issues, the question of ensoulment, that is, when life begins, which is beyond the scope of this Essay devoted to policy, not theology. My own belief is that ensoulment occurs, not at conception, but at some point much further along in the gestation process, if not at or just before birth. See LEWIS D. SOLOMON, *THE JEWISH BOOK OF LIVING AND DYING* (forthcoming 1999).

6. For a discussion of the technology which allows the possible use of cloning as a source of organ or tissue transplants, see John A. Robertson, *Liberty, Identity, and Human Cloning*, 76 *TEX. L. REV.* 1371, 1380-81 (1998).

7. The replacement of damaged tissue or organs in a seriously ill person, which would include someone who has suffered a heart attack or been diagnosed with hepatitis, has been heralded by many commentators as one of the likely benefits of human cloning. See, e.g., KASS & WILSON, *supra* note 3, at 16-17; Gilbert Meilaender, *Cloning in Protestant Perspective*, 32 *VAL. U. L. REV.* 707, 712 (1998); Robertson, *supra* note 6, at 1380-81.

8. See Eliot Marshall, *A Versatile Cell Line Raises Scientific Hopes, Legal Questions*, 282 *SCI.* 1014, 1015 (1998).

change the nature of the family; and 4) will exacerbate social inequalities.

II. HUMAN CLONING IS NOT REPUGNANT OR IMMORAL

Critics of human cloning offer fuzzy misgivings, an unease, if you will, couched in terms of it being repugnant or immoral.⁹ They are uncomfortable, to put it mildly, with a technique for creating a child that is a younger genetic twin of another person.¹⁰ At the root of their disquiet, I suspect, lies the uniqueness of heterosexual reproduction by a married couple, through intercourse, joining a wife's egg and her husband's sperm in her body.

For me, human cloning represents another in the existing array of assisted reproductive techniques. It is one among a number of reproductive options, albeit an asexual method.¹¹ I am willing to slide down the slippery slope of assisted reproduction practices deviating from the traditional concept of reproduction, which include medical treatment of infertility,¹² artificial insemination,¹³ in vitro fertilization,¹⁴ and surrogate motherhood.¹⁵ Cloning merely represents an incremental step beyond these technological advances which have changed our notion of reproduction.

Since society currently allows technological interventions in the reproduction process, should not individuals have another option to the

9. See, e.g., KASS & WILSON, *supra* note 3, at 3, 17-24; Lori B. Andrews, *Is There a Right to Clone? Constitutional Challenges to Bans on Human Cloning*, 11 HARV. J.L. & TECH. 643, 668 (1998); Robert F. Blomquist, *Cloning Endangered Animal Species*, 32 VAL. U. L. REV. 383, 404 (1998).

10. "Right now a lot of the concern about human cloning is based on the fact that people say it makes them feel queasy' . . ." Waldholz, *supra* note 1, at B12 (quoting Norman Frost, bio-ethicist, University of Wisconsin); see also Robertson, *supra* note 6, at 1384-85 (describing the uneasy reaction to cloning based on the initial images of cloning in the popular media).

11. See Robertson, *supra* note 6, at 1384-85 (explaining how human cloning is an asexual form of reproduction, and how it might be employed by a woman to reproduce herself or her mother). *But cf.* George J. Annas, *Human Cloning: Should the United States Legislate Against It?*, A.B.A. J., May 1997, at 80, 80 ("In vitro fertilization is no precedent for cloning; the child is still conceived by the union of egg and sperm from two separate persons . . . Cloning is replication, not reproduction, and represents a difference in kind, not in degree, in the way humans continue the species.").

12. For a discussion of the medical treatments for infertility, see OFFICE OF TECH. ASSESSMENT, U.S. CONGRESS, *INFERTILITY: MEDICAL AND SOCIAL CHOICES* 117-22 (1988).

13. Artificial insemination is the combining of a donated sperm with a woman's egg in her womb. See *id.* at 126-27.

14. In vitro fertilization involves accomplishing the fertilization of an egg outside a woman's body. See *id.* at 123, 130-31.

15. Surrogate motherhood is artificially inseminating a woman who nurtures a fetus to birth and turns it over to another individual or couple. See *id.* at 12-13.

current reproductive alternatives? Why should the choice of a reproductive method not be left to the involved adults to design their own arrangements and relationships? Moving from the premise of personal autonomy, what harm does human cloning pose to the clone or others so as to contravene the important value of personal choice?

III. CLONING IS NOT CONTRARY TO HUMAN DIGNITY

Opponents of human cloning view the practice as contrary to human dignity,¹⁶ another rather nebulous concept. The human dignity argument appears to have two basic strands: first, cloning jeopardizes the personal identity and autonomy of the clone;¹⁷ and second, cloning turns humans into commodities, artifacts, and objects thereby demonstrating a callousness toward, and a depersonalization of, human life.¹⁸

In examining the first aspect of the human dignity approach, we need to ask: what will be the impact on being a clone in terms of a child's psychological development? Will a clone be hurt? More specifically, will a clone encounter psychological harm or distress, a loss of a normal sense of individuality and self, or the freedom to create his or her own identity if he or she lives in the shadow of the cloner?

I reject the genetic determinism implicit in the first strand of the human dignity argument. The clone and the cloner will not be identical.¹⁹ Each will come to term in a different uterus.²⁰ There will be pas-

16. See, e.g., UNITED NATIONS EDUCATIONAL, SCIENTIFIC AND CULTURAL ORGANIZATION, UNIVERSAL DECLARATION ON THE HUMAN GENOME AND HUMAN RIGHTS (1997) [hereinafter UNESCO DECLARATION] (providing in Article 11 that "[p]ractices which are contrary to human dignity, such as reproductive cloning of human beings, shall not be permitted"); Annas, *supra* note 11, at 80; see also Robertson, *supra* note 6, at 1410 (discussing the violation of human dignity argument put forth by anti-cloning advocates).

17. See, e.g., KASS & WILSON, *supra* note 3, at 26-27, 31-38; Annas, *supra* note 11, at 80; see also KOLATA, *supra* note 2, at 37-38 (quoting R. Alta Charo, a professor of law and medical ethics at the University of Wisconsin, who discusses the fact that the possible lack of individuality in clones is disturbing to many people); Robertson, *supra* note 6, at 1411 (stating that much opposition to human cloning has been rooted in the idea that clones will lack individuality and uniqueness).

18. See, e.g., KASS & WILSON, *supra* note 3, at 26-27, 38; Annas, *supra* note 11, at 80.

19. See *Religious and Ethical Perspectives on Human Cloning, Selection of Testimony Presented to the National Bioethics Advisory Commission*, reprinted in [1997 Edition, Volume 2, Special Sections] BIOLAW (Univ. Pub. Am.) S:99, S:130 (June 1997) [hereinafter *Selection of Testimony*] (testimony of Ruth Macklin). Even in terms of their genes, in the nuclear transfer cloning process, the clone and the cloner will have less than total genetic identity because the clone will pick up maternal factors from the proteins in the host's egg. See *id.*

20. See Nancy L. Segal, *Behavioral Aspects of Intergenerational Human Cloning: What Twins Tell Us*, 38 JURIMETRICS 57, 58-59 (1997) (stating that unlike clones, identical twins share intrauterine environments); *Selection of Testimony*, *supra* note 19, at S:130.

sage of time between the birth of the cloner and the clone.²¹ They will grow up in different environments and encounter divergent life experiences and peers.²² Random events, such as luck and chance, as well as life choices and free will, will play a role in the development of the clone's personality, character, behavior, and intellectual capabilities. In short, nature—one's genes—and nurture—one's environment—will shape a clone in a multitude of ways and differentiate him or her from his or her cloner.

Two types of empirical evidence bear out this conclusion. First, test-tube babies do not seem to encounter high rates of psychological problems.²³ A clone should not have more questions about his or her self-worth and identity, among other psychological issues, than a test-tube baby.

Second, identical twins are not deprived of their individuality. They develop different psychological and personal characteristics stemming from their environmental experiences, including, life histories, personal relationships, and their own free will and choices.²⁴ Identical twins have as much individuality as anyone else.²⁵ Thus, clones will not lose the possibility of freedom and spontaneity merely because they are clones.²⁶

The second aspect of the human dignity argument focuses on looking at a clone as an object of manipulation by others, thereby leading to a lessening of the worth of humans and diminished respect for human life.²⁷ A clone will be valued as an object to be created and enjoyed by the cloner, not as a person, at least so the argument runs.²⁸

21. See Segal, *supra* note 20, at 58-59; *Selection of Testimony*, *supra* note 19, at S:132.

22. See Stephen A. Newman, *Human Cloning and the Substantive Due Process Riddle*, 8 S. CAL. INTERDISC. L.J. 153, 163-64 (1998); *Selection of Testimony*, *supra* note 19, at S:132.

23. See KASS & WILSON, *supra* note 3, at 94-95.

24. See Stephen A. Newman, *Human Cloning and the Family: Reflections on Cloning Existing Children*, 13 N.Y.L. SCH. J. HUM. RTS. 523, 529 (1997) ("[I]dential twins are separate individuals, with separate personalities and separate experiences of life . . ."); Segal, *supra* note 20, at 63-64 (discussing the human development and behavior of twins).

25. See Robertson, *supra* note 6, at 1412 (stating that identical twins are not viewed as suffering from a lack of individuality); Segal, *supra* note 20, at 60, 61 (noting that twins share a social closeness that does not imply a loss of individuality).

26. See Segal, *supra* note 20, at 67 ("Concern that human cloning reduces free will does not seem to follow from what is known about identical twins.")

27. See, e.g., Andrews, *supra* note 9, at 655; George J. Annas, *Human Cloning: A Choice or an Echo?*, 23 U. DAYTON L. REV. 247, 254 (1998); Elliot N. Dorff, *Human Cloning: A Jewish Perspective*, 8 S. CAL. INTERDISC. L.J. 117, 118 (1998).

28. See, e.g., Andrews, *supra* note 9, at 653-54 (discussing the potential disappointment of a couple who clones a famous basketball player who then breaks his leg at age ten and stating that a clone created from a departed loved one may not be loved as much based on "intrinsic worth");

Opponents of human cloning offer a number of scenarios as raising a threat to the ideal parent-child relationship and what it means to have a child. For example, parents could clone a terminally ill child who accidentally suffered a brain (or other) injury to produce a younger twin. In this case, apart from the question of the child-cloner's inability to consent to the process, the clone might be a living memorial to someone else. Or, parents may want a clone whose tissue or organ cells will be available for transplant to save an older sibling who, it is asserted, may be the real focus of parental love. Or, the narcissistic, self-absorbed could reproduce themselves in their own image, thereby attempting to attain immortality.²⁹

The difficulty with the objectification argument turns on the reality of current parent-child relationships. Today, as in the past, children are traditionally conceived and brought up for a number of less than ideal reasons, including, serving as instruments of parents' thwarted ambitions, enabling parents to live vicariously through them, reflecting their parents' desire for immortality, or providing companionship in old age. In short, children, whether cloned or not, may serve as an instrument of parental fulfillment. Even with sexual reproduction, parents may exercise excessive control over their children not only thwarting their independence but also turning them into objects.

IV. THE DIVERSITY OF FAMILY STRUCTURES DOES NOT REPRESENT A FATAL OBJECTION TO HUMAN CLONING

Human cloning, it is argued, poses a threat to the nuclear, two parent heterosexual family structure.³⁰ Thus, those who would regulate, but

Dorff, *supra* note 27, at 118 (stating that cloning would "cheapen life, making human beings like inanimate objects"); Thomas A. Shannon, *Human Cloning: Examining Religious and Ethical Issues*, 32 VAL. U. L. REV. 773, 786 (1998) (hypothesizing that a cloned human being's "essential humanity" will be reduced to the status of "replacement").

29. See Courtney S. Campbell, *Resistance and Meaning: Religious Communities and Human Cloning*, 32 VAL. U. L. REV. 607, 610 (1998); Kenneth D. Pimple, *The Ethics of Human Cloning and the Fate of Science in a Democratic Society*, 32 VAL. U. L. REV. 727, 730 (1998). A discussion of the different possible uses and motives for cloning one's own child or embryo can be found in Robertson, *supra* note 6, at 1392-94. Additionally, Robertson discusses the risk of cloned "children being treated as means to parental ends and not as ends in themselves." *Id.* at 1418, 1418-22.

30. See, e.g., KASS & WILSON, *supra* note 3, at 64-65, 71-73; see also R. Alta Charo, *Dealing with Dolly: Cloning and the National Bioethics Advisory Commission*, 38 JURIMETRICS 11, 19 (1997) ("Another argument about the ethics of cloning focused on the ways that it challenges traditional notions of family, kinship, procreation, and human power over nature."); Robertson, *supra* note 6, at 1422-30 (discussing, in detail, the argument that human cloning poses a threat to family

not ban cloning, urge allowing cloning only for married heterosexual couples, where the mother carries the fetus to birth and the couple agrees to raise the child.³¹ Although cast in terms of preventing the use of clones for tissue or organ farming, or for political misuse, underpinning this regulatory approach lies a traditional view of the nature of the family.³²

Because cloning separates reproduction from sex, the technique offers the possibility of a single lesbian woman or a lesbian couple giving birth to a female clone.³³ Or, a single gay man, or one or both members of a gay couple, could act in association with a woman (at least until technology comes up with an artificial womb), who would serve as the surrogate or gestational mother of a male clone. In particular, asexual lesbian reproduction raises the prospect, albeit decades into the future, of the development of an ongoing female community without men.³⁴ In addition to disturbing the overall sex ratio, the prospect of women-only families raises the specter of men becoming an endangered species.

Just as with the assisted reproduction techniques mentioned earlier in this Essay,³⁵ the genie is already out of the bottle today with respect to the non-nuclear family. The past several decades have witnessed a remarkable transformation of the "family." The twenty-first century will continue to witness a diversity of family structures, including non-nuclear families consisting of no dad or two dads, perhaps with no one form dominating the mix.³⁶ It is obvious that fathers do matter; children

and kinship structure).

31. See, e.g., KASS & WILSON, *supra* note 3, at 64-65, 71-73; James Q. Wilson, *The Paradox of Cloning*, WKLY. STANDARD, May 26, 1997, at 23, 24, 26.

32. See, e.g., KASS & WILSON, *supra* note 3, at 64-65, 71-73 (acknowledging the importance of family, specifically a nuclear family, in raising a child, as well as raising the question of whether homosexual couples should raise children).

33. A homosexual couple could have a child genetically related to one or both of them. This could be accomplished through embryo fusion, that is, the genes of two people of the same sex could be spliced with the genetic material of both, resulting in a clone genetically related equally to each parent. See LEE M. SILVER, REMAKING EDEN: HOW GENETIC ENGINEERING AND CLONING WILL TRANSFORM THE AMERICAN FAMILY 213-19 (1998).

34. Eskridge and Stein briefly discuss the possibility of this feminist utopian notion in William N. Eskridge, Jr. & Edward Stein, *Queer Clones*, in CLONES AND CLONES: FACTS AND FANTASIES ABOUT HUMAN CLONING 95, 99 (Martha C. Nussbaum & Cass R. Sunstein eds., 1998).

35. See *supra* notes 11-15 and accompanying text.

36. The futurist Alvin Toffler envisioned the trend toward the diversity of family structures nearly 20 years ago in ALVIN TOFFLER, THE THIRD WAVE 224-32 (1980). See also *The Disappearing Family*, ECONOMIST, Sept. 9, 1995, at 19, 19-20 (stating that marriage was in "terminal decline" and many children are being brought up by single mothers); *Home Sweet Home*, ECONOMIST, Sept. 9, 1995, at 25, 25 ("In many American . . . cities, the two-parent family has all but vanished."); Roberto Suro, *For Women, Varied Reasons for Single Motherhood*, N.Y. TIMES, May 26, 1992, at A12 ("Single parenthood by unwed mothers rose quickly, and is still increas-

raised by single mothers have higher school dropout rates and more frequent police encounters.³⁷ Although we should encourage the formation of traditional families and help them remain intact, we should respect the value of personal choice. Also, we know little about gay or lesbian couples (or for that matter gay or lesbian single parents) as child rearers.³⁸ Likely, they will do no worse than one or two heterosexual parents.³⁹

Because sex is a staple of life, and the overwhelming percentage of men and women are heterosexual, it seems highly unlikely that conceiving children the traditional way will go out of fashion. Married heterosexual couples who are able will want to produce children through intercourse or assisted sexual reproduction techniques. The prospect of non-nuclear families, particularly, gay or lesbian single parents or couples, having cloned children should not lead to governmental banning or regulating of cloning.

We should not fear a diversity of family structures. We should focus on facilitating a stable and loving parental environment, whether by heterosexual couples, single parents, or homosexual couples. As the involved professionals, including physicians, genetic counselors, clergy, attorneys, or social workers, advise and counsel individuals or couples about the social and psychological challenges of cloning, and gain their informed consent, these professionals need to emphasize the importance of the child-rearing responsibilities. The parent or parents of a clone⁴⁰ ideally should want to love, care for, and nurture the clone-child.

In this mix of family structures, a prospective parent or parents may still opt for the reproductive lottery over cloning. The mix of genes, even from autonomous egg and/or sperm donors, often produces fascinating combinations, some of which may, however, prove quite

ing.”). Beyond mentioning the diversity trend, a discussion of its normative aspects is beyond the scope of this Essay.

37. See Patricia Cohen, *Daddy Dearest: Do You Really Matter?*, N.Y. TIMES, July 11, 1998, at B7.

38. However, within the last few years, a number of studies have been conducted examining the role of gays or lesbians as child rearers. See Marc E. Elovitz, *Adoption by Lesbian and Gay People: The Use and Mis-Use of Social Science Research*, 2 DUKE J. GENDER L. & POL’Y 207, 210-15 (1995); Charlotte J. Patterson, *Adoption of Minor Children by Lesbian and Gay Adults: A Social Science Perspective*, 2 DUKE J. GENDER L. & POL’Y 191, 196-205 (1995).

39. See Patterson, *supra* note 38, at 191 (“[C]hildren of lesbian and gay parents develop as successfully as do children of heterosexual parents.”).

40. “Who are a clone’s legal parents?” an important question both legally and practically, is beyond the scope of this Essay. However, this issue is discussed elsewhere in this cloning symposium. See Nanette Elster, *Who Is the Parent in Cloning?*, 27 HOFSTRA L. REV. 533 (1999).

harmful to the offspring.⁴¹

V. HUMAN CLONING WILL NOT UNNECESSARILY EXACERBATE SOCIAL INEQUALITIES

It has been asserted that human cloning and its closely related technological process, genetic enhancement, may exacerbate social inequalities.⁴² In reproducing, whether sexually or asexually, the wealthy may have easier access, at least the suspicion runs, to these genetic engineering and human enhancing techniques.⁴³

In the twenty-first century, parents will use genetic enhancements offered by gene transfer technology to add something to (or change something in) a child's gene pool, whether at the level of the sperm, egg, embryo, or fetus, not existing in the parents' genes.⁴⁴ Genetic enhancement offers the prospect of protecting against diseases, such as cystic fibrosis or Tay-Sachs, or through transplanting an AIDS resistance gene or a gene to guard against Alzheimer's disease. Parents could also use gene therapy to replace an embryo's defective DNA, which otherwise would cause (or fail to protect against) a disease with a normal gene so as to prevent, for example, cancer.⁴⁵

Genetically-favored children will diverge from others. Apart from a freedom from genetic diseases, these more "perfect" designer babies will have genes correlated to the characteristics a meritocratic society favors. They will be tall, slender, heterosexual, and outgoing. They will have better physical, emotional, and mental health, improved intelligence and longevity, and enhanced physical attractiveness.⁴⁶ The ability to design people to our specifications may thus increase the gap between the rich and the poor.

We should not allow our fears of the distributional consequences of genetic enhancement to limit technological advancements, including

41. "In fact, there is no scientific basis for the belief that cloned children will be any more prone to genetic problems than naturally conceived children." SILVER, *supra* note 33, at 120-21.

42. See Dorff, *supra* note 27, at 117.

43. See Lee M. Silver, *How Reprogenetics Will Transform the American Family*, 27 HOFSTRA L. REV. 649, 657 (1999) ("[S]ome people . . . have access to technologies that can provide advantages while others, less well-off, are forced to depend on chance alone.").

44. See SILVER, *supra* note 33, at 233-80; Silver, *supra* note 43, at 651. Again, I assume that genetic enhancement will be physically safe for the fetus, and ultimately the child and his or her offspring.

45. See SILVER, *supra* note 33, at 267-68, 277-80 (discussing the use of cloning in attempting to use genetic enhancements to eliminate the chances of genetic diseases).

46. See KASS & WILSON, *supra* note 3, at 46 (stating that having these genetically enhanced characteristics "will likely produce some very good chances in life").

human cloning. First, the specter of social inequities is congruent with other choices modern capitalistic society allows parents. Today, affluent parents can offer their children all sorts of environmental enhancements, from summer camps to the latest computer technology, from music lessons to a first rate college education.⁴⁷ Second, the cost of genetic enhancement may drop substantially in the future and come within the reach of average or even poor couples or individuals. Third, genetic enhancement may become a governmental entitlement available to all.⁴⁸ Prevention in the form of genetic intervention is considerably cheaper than the lifetime cost of caring for those with diseases.

VI. CONCLUSION

My position leads to the libertarian conclusion that state or national governments, as well as transnational bodies, should adopt a hands off policy with respect to human cloning. Governments should not impose any bans or new regulations either on research involving human cloning for valid scientific purposes (or its funding, by public or private sources) or, ultimately, on the cloning of humans. We should also allow the cultivation and use of pre-implantation embryos for research purposes or for organ and tissue transplants, despite the loss of embryos in the cloning process, subject, of course, to the informed consent of the involved individuals or couples.

My permissive conclusion will, however, necessitate one minor statutory modification and two statutory clarifications. Governments should extend the existing ban on commercial transactions involving babies produced by sexual reproduction,⁴⁹ as well as human organs,⁵⁰ to cloning. A need will also exist for a statutory definition of the parentage and inheritance rights of clones, as well as a clarification as to whether a parent, or parents, can provide the consent to clone a minor child.

47. See Walter J. Blum and Harry Kalven, Jr., *The Uneasy Case for Progressive Taxation*, 19 U. CHI. L. REV. 417, 501-04 (1952).

48. For example, the Universal Declaration on the Human Genome and Human Rights states: "Benefits from advances in biology, genetics and medicine, concerning the human genome, shall be made available to all, with due regard to the dignity and human rights of each individual." UNESCO DECLARATION, *supra* note 16, at art. 12(a).

49. See, e.g., KY. REV. STAT. ANN § 199.590(2) (Michie 1995).

50. See, e.g., 42 U.S.C. § 274e(a) (1994); N.Y. PUB. HEALTH LAW § 4307 (McKinney 1985).