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THE CASE AGAINST HUMAN CLONING

*Vernon J. Ehlers**

In 1997, the announcement of a cloned sheep ignited an international discussion that continues still today. The scientists at the Roslin Institute in Edinburgh, Scotland, claimed that they had successfully cloned an adult mammal.¹ Using a process called somatic cell nuclear transfer, the scientists transferred the genetic code from the cell of an adult sheep into an enucleated sheep egg.² An electrical pulse caused the egg to start dividing, and the resulting embryo was implanted in the uterus of a surrogate sheep.³ Since the birth of "Dolly," we have been faced with the prospect of the cloning of human beings. This possibility has raised fundamental questions about what it means to be human, and has stirred debate over what restrictions, if any, should be placed on attempts to clone humans.

During the ensuing months, ethicists, theologians, scientists, physicians, legislators, and concerned citizens contributed to the debate in many fora. The National Bioethics Advisory Commission ("Commission") was called upon to conduct a ninety day review of cloning and its implications.⁴ After acknowledging concerns about the effect of cloning on children, our social values, and our morals, the Commission concluded that "at this time it is morally unacceptable for anyone in the public or private sector, whether in a research or clinical

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1. See 1 NATIONAL BIOETHICS ADVISORY COMM'N, CLONING HUMAN BEINGS: REPORT AND RECOMMENDATIONS OF THE NATIONAL BIOETHICS ADVISORY COMMISSION 1 (1997) [hereinafter CLONING HUMAN BEINGS].

2. See *id.*

3. See I. Wilmut et al., *Viable Offspring Derived from Fetal and Adult Mammalian Cells*, 385 NATURE 810, 813 (1997).

4. See CLONING HUMAN BEINGS, *supra* note 1, at i.

setting, to attempt to create a child using somatic cell nuclear transfer cloning.”⁵

In the meantime, I had introduced legislation in the United States House of Representatives to ban the cloning of humans.⁶ As a published research scientist, I cherish scientific freedom. I understand the vital role that science plays in enhancing the welfare of individuals and society and I am reluctant to place any limits on scientific research. However, while the possibilities of scientific experimentation normally are beneficial and limitless, there are times when society—through the governmental process—can and should place limits on scientific experimentation.⁷ The Commission agreed by stating:

Because science is both a public and social enterprise and its application can have profound impact, society recognizes that the freedom of scientific inquiry is not an absolute right, and scientists are expected to conduct their research according to widely held ethical principles. There are times when limits on scientific freedom must be imposed, even if such limits are perceived as an impediment by an individual scientist.⁸

Such is the case with the cloning of humans. When a human being is created through cloning, we have crossed the line from experimentation and legitimate scientific work to an activity with profound moral and social repercussions.

The delicate balance between morality and scientific progress was also addressed during committee hearings on cloning in both the House Science Subcommittee on Technology and the House Commerce Subcommittee on Health and the Environment.⁹ At the Technology Subcommittee hearing, Dr. Kevin Wm. Wildes, the Associate Director of the Kennedy Institute of Ethics at Georgetown University reiterated:

5. *Id.* at iii.

6. See Human Cloning Research Prohibition Act, H.R. 922, 105th Cong. (1997); Human Cloning Prohibition Act, H.R. 923, 105th Cong. (1997).

7. Examples of research that should not have been allowed to proceed include the Nazi experiments on humans and the Tuskegee Syphilis Study.

8. CLONING HUMAN BEINGS, *supra* note 1, at 6.

9. See *Cloning: Legal, Medical, Ethical, and Social Issues: Hearing Before the Subcomm. on Health and Env't of the House Comm. on Commerce*, 105th Cong. 62-65 (1998) [hereinafter *Cloning Issues*] (prepared statement of Dianne N. Irving, Professor of the History of Philosophy, and Medical Ethics, The Dominican House of Studies at The Catholic University of America); *The Prohibition of Federal Government Funding of Human Cloning Research: Hearing Before the Subcomm. on Tech. of the House Comm. on Science*, 105th Cong. 7-8, 14-15 (1997) [hereinafter *Human Cloning Research*] (testimony of Hessel Bouma III, Professor of Biology at Calvin College Biology Department, and Kevin Wm. Wildes, Associate Director of the Kennedy Institute of Ethics at Georgetown University).

“What is important is that we must recognize that science, and medicine, in particular, are not developed within a vacuum. We have lived in this century, a century that bears witness to the moral evils that flourish when science is treated as pure research and as value-free.”¹⁰

Then approximately six months later, Dr. Nigel M. de S. Cameron, the Chair of the Center for Bioethics and Human Dignity at Trinity International University, summed up the task before us during the Health and Environment Subcommittee hearing by writing:

For, in essence, either we submit to the power of an unbridled technology—and agree that what science has made possible science must be allowed to do; or we do not. Either we shrug our shoulders in the face of technological possibility, or we determine that there are some things which we will not do. The prospect of human cloning offers us a huge decision, and history will grade our generation in accordance with our capacity to respond both wisely and vigorously to the best example so far of our capacity to do things which we should never do.¹¹

Therein lies the challenge—to respond wisely and vigorously to the prospect of human cloning.

There are several reasons for the United States Congress to prohibit human cloning. First, the dangers associated with the cloning of human beings are numerous. It is relatively easier to clone sheep or goats than humans, and yet it took 277 tries to produce one cloned sheep; the unsuccessful attempts were merely discarded.¹² Since then, this method has by no means been perfected, and if tried with humans, the difficulty of the procedure would produce even more failed attempts. There would be a loss of many fetuses, and some babies would die shortly after birth. We place too high a value on human life to allow humans to be callously discarded during such a process. Dr. Hessel Bouma III, a professor of biology at Calvin College in Grand Rapids, Michigan, and a witness at the Technology Subcommittee hearing, adds: “Because adequate research has not yet been performed on animals to warrant human clinical trials, we need a ban on human-cloning research.”¹³ Dr. Bouma also raises the question of the effect of genetic mutations. He states: “[T]he genetic material in the nucleus may have accumulated years of muta-

10. *Human Cloning Research*, *supra* note 9, at 14 (testimony of Kevin Wm. Wildes).

11. *Cloning Issues*, *supra* note 9, at 42 (prepared statement of Nigel M. de S. Cameron, Chair of the Center for Bioethics and Human Dignity, Distinguished Professor of Theology and Culture, Trinity International University).

12. See CLONING HUMAN BEINGS, *supra* note 1, at 22.

13. Hessel Bouma III, *Should There Be Another Ewe: The Science and Ethics of Cloning*, THE BANNER, Sept. 28, 1998, at 14, 21.

tions, mostly harmful. Clones from adults might therefore have substantially increased risks of cancer and various genetic conditions.”¹⁴

These are questions that must be explored further before anyone can even suggest that it is safe to attempt to clone a human. During a visit to my congressional district, Dr. Ian Wilmut, the chief researcher for the Dolly experiment at the Roslin Institute, publicly stated: “The one who is truly affected by cloning is the child The child is the one who is most vulnerable in this technology. We have no idea right now what special diseases or conditions a cloned child would face.”¹⁵ Furthermore, in a conversation with Dr. Wilmut during that visit, he shared with me that he thinks it is irresponsible on the part of the United States that we had not yet prohibited human cloning.

Yet, beyond the safety concern lies another reason to ban the cloning of humans. We must examine what effect human cloning would have on our social structure. As a society, we value the diversity among us. Choosing the precise genetic composition of our offspring may not be wise, and I imagine that most of us are uncomfortable with the notion of our friends and neighbors creating designer children. We may also be inadvertently harming the strength and survival of our species by reducing the variety of children that are currently born through the random combination of a mother’s and father’s genes. Furthermore, we know that in the past, political rulers have attempted to shape the composition of the human race. One race or particular gene pool has been preferred over others, and attempts have been made to eliminate “undesirable” gene pools. We cannot allow human cloning to be a dangerous political instrument in the production of desired human characteristics. We must value and encourage the diversity found among the many peoples of the earth.

Most important in the discussion of the effect of cloning on society is the effect of cloning on the child. All of us have had the privilege of receiving a unique combination of genes from our parents. We delight in the knowledge that we have our own genetic identity. However, a child cloned from an adult would be denied this experience. Instead, the child would live in the shadow and expectations of his predecessor. Just as many are prone to compare a younger child with his or her older sibling, the cloned child would face an even higher level of scrutiny in that he or she would be compared to the parent. Concern for the child also

14. *Id.* at 18.

15. Chris Meehan, *Cloning Pioneer Opposed to Work on Humans*, GRAND RAPIDS PRESS, Jan. 15, 1998, at A1.

adds a new perspective to the concept of human freedom. Dr. Bouma stated during his testimony before the Subcommittee on Technology: "While we emphasize human freedom, we agree to limit some of that freedom when the freedom of one comes at the expense of another."¹⁶ Should we ignore the deleterious effects of cloning on a child in the name of human freedom? I agree with Dr. Bouma that human freedom does have limits, and prohibiting the cloning of humans is one of those limits.

Finally, our sense of morality and human dignity dictates that we prohibit the cloning of humans. I believe it is simply wrong to use cloning to experiment with the creation of human life. Human beings are not simply genes and molecules. We are embodied spirits with an innate sense of self and dignity. Every child should be afforded this dignity. As Dr. Nigel M. de S. Cameron stated: "[E]very child has the right not to be born a clone."¹⁷ Every child has the right to forge his own destiny without preconception overshadowing his journey. I have yet to speak to a person who, given the opportunity, would have liked to be born the clone of an adult. Furthermore, cloning detracts from human dignity by emphasizing the *making* of a child rather than the *begetting*. Again, Dr. Cameron made the following observation:

We should note well that this is not just another technique for assisted reproduction, like [in vitro] fertilization. It offers us reproduction which is asexual; the capacity to make human beings rather than beget and conceive them—and thereby to cross a watershed in the history of the human race. Because if we can make them, we can make them to suit our desires and fit our wants rather than chiefly to be themselves. The politics of generation have been rewritten, as would-be "parents" become, instead, those who commission the child of their choosing; and as children thus chosen discover themselves to be the product of "parental" will and design.¹⁸

This observation reaffirms cloning's assault on human dignity. The cloned child is viewed as a product rather than a cherished gift.

In response to these concerns, I introduced two bills during the 105th Congress to prohibit human cloning. House Bill 922, the Human Cloning Research Prohibition Act, was approved by the Science Committee in July of 1997.¹⁹ This bill prohibited federal funds from

16. *Human Cloning Research*, *supra* note 9, at 7 (testimony of Hessel Bouma III).

17. *Cloning Issues*, *supra* note 9, at 44 (prepared statement of Nigel M. de S. Cameron).

18. *Id.* at 42.

19. See Human Cloning Research Prohibition Act, H.R. 922, 105th Cong. § 1 (1997).

being used for research that includes the use of human somatic cell nuclear transfer technology to produce an embryo; in other words, it banned federal funding of human cloning research.²⁰ It also called for a review of cloning technologies within five years to discuss the impact that this legislation may have on research and to provide an opportunity for recommendations for appropriate changes.²¹ The second bill, House Bill 923, the Human Cloning Prohibition Act, extended the human cloning ban to the private sector.²² Neither bill was approved by the other committee of jurisdiction, the House Committee on Commerce, before the end of the 105th Congress.

In crafting this legislation, it was extremely critical to keep it flexible for future scientific developments and yet still address the crucial moral issues. My legislation precisely defined and banned one type of cloning, human somatic cell nuclear transfer, which leads to the production of an identical genetic copy. It is vitally important to recognize what the legislation did not prohibit. It did not ban other types of cloning, such as recombinant deoxyribonucleic acid ("DNA") technology, also called gene splicing.²³ It did not ban cell cloning—what scientists refer to as cell-line expansion.²⁴ It did not ban research into the cloning of human tissues or organs and did not ban the cloning of plants or other animals.

I believe that genetic science, including cloning technology, will continue to play a key role in the discovery of cures and treatments for diseases and the improvement of our quality and quantity of agricultural products, as well as improving our basic understanding of the life sciences. For this reason, the legislation specifically protected the use of cloning technologies to clone animals, tissues, molecules, DNA, and cells other than human embryo cells. My intent is to protect and encourage all types of cloning research, while prohibiting human cloning activities.

My legislation did not allow the use of somatic cell nuclear transfer to mass-produce human embryos for research purposes. R. Alta Charo, a member of the Commission, stated in an interview with Forrest Sawyer

20. *See id.* § 2.

21. *See* Human Cloning Research Prohibition Act, H.R. REP. NO. 105-239, at 9 (1997).

22. *See* Human Cloning Prohibition Act, H.R. 923, 105th Cong. § 2(a) (1997).

23. "Gene splicing" has been defined as the "attachment of one [deoxyribonucleic acid] molecule to another." *STEDMAN'S MEDICAL DICTIONARY* 1455 (25th ed. 1990).

24. *See* CLONING HUMAN BEINGS, *supra* note 1, at 14. "In cellular cloning copies are made of cells derived from the soma, or body, by growing these cells in culture in a laboratory. The genetic makeup of the resulting cloned cells, called a cell line, is identical to that of the original cell." *Id.*

of ABC News that “every aspect of cloning research is going to involve experimentation with embryos.”²⁵ Dr. Dianne N. Irving, a former laboratory scientist in biochemistry, commented on the status of human embryos in her testimony before the Commerce Subcommittee on Health and Environment. She stated: “There is unquestionably a scientific consensus that the life of every single individual human being begins at fertilization as a single-cell human embryo (the zygote).”²⁶ She also asserted:

[P]ublic policy . . . should be based on accurate science. Scientifically, we do know that the immediate product of human cloning is an already existing, unique, individual human being, the single-cell human embryo, regardless of whether it is implanted or not. . . . Thus, human cloning essentially involves human embryo research.

Since human cloning uses human beings solely as means to someone else’s ends, no matter how lofty those ends, necessarily harming and destroying them, such research is unethical and should be totally banned.²⁷

I agree with Dr. Irving that an embryo is the earliest form of human life and should be protected from non-therapeutic research experiments. As human beings, we must seek to preserve human life at its earliest stages, not destroy it. Those who favor cloning embryos for research show a disregard for the moral status of the human embryo. We must respect the dignity of humanity by not beginning a life merely for research purposes. The debate over the use of human embryos has been further complicated by recent developments in stem cell research. Research that uses stem cells taken from destroyed embryos and fetuses has raised a new set of ethical questions that must be addressed in the public arena.

There is also the danger that disregard for the moral status of the human embryo could lead to an acceptance of bringing a cloned child into this world. Dr. Cameron touched on this danger by saying:

Yet there is pressure from some quarters not to ban the use of somatic cell nuclear transfer technology to human beings—but to legislate a moratorium on the implantation of cloned embryos (so there are no cloned babies born) while allowing embryo cloning research. This

25. *ABC News Nightline: Of Mice and Men: How Long Before Scientists Can Clone a Human Being?* (ABC News television broadcast, R. Alta Charo interviewed by Forrest Sawyer, July 23, 1998), available at <http://www.abcnews.com/onair/nightline/transcripts/ntl_980723_trans.html>.

26. *Cloning Issues*, *supra* note 9, at 62 (statement of Dianne N. Irving).

27. *Id.*

suggests the worst possible outcome: public disquiet is allayed by 'banning human cloning,' while research continues on how to do it and, after a period (when clinical use of the technique in human beings has been perfected) the moratorium lapses when there will be strong pressure to set in place a more permissive regime.

The only proper response of the human community is to ban the use of this technology with human beings, and to seek to build on widespread international concern a worldwide ban so that no human being is ever cloned.²⁸

Dr. Wildes added this warning:

Many things have been done in the name of science with the intention of promoting good and making the lives of future generations better than the present. However, such reasoning often overlooks the ethical questions of whether or not one can ever do an evil so that good may come.²⁹

All of these quoted hearing witnesses reiterated the need for us to safeguard human life, even at its earliest stages. The mystery of creating human life is too grand, too awe-inspiring, to be replaced by genetic manipulation.

However, I believe that it is essential that other avenues of genetic research and non-human cloning research continue. Scientists are making great strides in understanding the underlying causes of diseases, developing potential cures, and pursuing other promising avenues of research. This other research should and must continue. Although not as well publicized as embryo research, there are other avenues of research currently being undertaken with great potential for discovering cures for human afflictions. Included in the National Bioethics Advisory Commission report is the following example of this research:

Because of ethical and moral concerns raised by the use of embryos for research purposes it would be far more desirable to explore the direct use of human cells of adult origin to produce specialized cells or tissues for transplantation into patients. It may not be necessary to re-program terminally differentiated cells but rather to stimulate proliferation and differentiation of the quiescent stem cells which are known to exist in many adult tissues, including even the nervous system.

28. *Cloning: The Challenge to Human Dignity, Hearing Before the Subcomm. on Health and Env't of the House Comm. on Commerce*, 105th Cong. (1998) (remarks of Nigel M. de S. Cameron) (unpublished summary on file with Author).

29. *Human Cloning Research*, *supra* note 9, at 14 (testimony of Kevin Wm. Wildes).

....

Another strategy for cell-based therapies would be to identify methods by which somatic cells could be “de-differentiated” and then “re-differentiated” along a particular path. This would eliminate the need to use cells obtained from embryos. Such an approach would permit the growth of specialized cells compatible with a specific individual person for transplantation.³⁰

During a legislative hearing, Congressman Michael Bilirakis (R-FL), chairman of the House Commerce Subcommittee on Health and Environment, cited the National Institutes of Health funding of 347 separate stem cell research projects that do not use embryos.³¹ Congressman Bilirakis further testified to 764 Investigational New Drug applications that the Food and Drug Administration has authorized for cell and gene therapy.³² None of these projects use embryos.³³

Another avenue of non-human cloning research is the use of animal cloning to study and treat human diseases.³⁴ Animals are already being genetically modified to produce specific proteins to treat human disease;³⁵ cloning could be used to generate a larger supply of these transgenic animals. Furthermore, cloned animals could be used for comparison purposes in disease studies.³⁶ Also, genetic research combined with animal cloning is being used to produce better livestock to enhance our meat and dairy supply.³⁷ Finally, advances in plant cloning will lead to more disease-resistant and fruitful plants.

As with many technological developments, cloning must be evaluated within a scientific, social, and moral context. The call, “We can, we must,” needs to be tempered by our reverence for human life. We should not go blindly down the twisting path of scientific progress but instead proceed cautiously while carefully scrutinizing the far-reaching implications of human cloning. In light of modern-day society’s often flippant attitude about the significance of a human life, we must do all that is possible to tenaciously uphold the dignity of humanity. Therefore, I will be championing this issue again during the 106th Congress; I

30. CLONING HUMAN BEINGS, *supra* note 1, at 30-31 (citation omitted).

31. *See Cloning Issues*, *supra* note 9, at 2 (prepared statement of Rep. Michael Bilirakis, Chairman of the Subcommittee on Health and Environment).

32. *See id.*

33. *See id.*

34. *See CLONING HUMAN BEINGS*, *supra* note 1, at 24-31.

35. *See id.* at 26.

36. *See id.*

37. *See id.* at 25.

believe it is imperative that the United States Congress pass a ban on human cloning.