

## Of Cloned Embryos, Humans, and Posthumans

**Evelyne Shuster, Ph.D.\***

*Cloning and the Future of Human Embryo Research.* Edited by Paul Lauritzen. Oxford: Oxford University Press, 2001. Pp. 291.

Since Ian Wilmut's report in *Nature*<sup>1</sup> that he had cloned an adult sheep by transferring the nuclei of its somatic cells into an enucleated egg, two other announcements in Britain and the United States have renewed the debate on human embryo research and increased speculation about the prospect of human cloning. In the summer of 2000, a panel of scientists in Britain recommended that Parliament permit research on stem cells derived from human embryos created by somatic cell nuclear transfer, a technique used to produce "Dolly," the cloned sheep.<sup>2</sup> British scientists emphasized in their proposal that cloning techniques would be applied only to produce stem cells for treatment purposes (therapeutic cloning), and that under no circumstances would they contemplate approving somatic cell nuclear replacement to produce a child (reproductive cloning). Nonetheless, critics and the public fear that, in the absence of an enforceable global treaty to ban the practice, cloning techniques developed and perfected in Britain will inevitably be applied elsewhere to produce human clones.

A week after the British proposal, the U.S. National Institutes of Health (NIH) issued new guidelines to permit federally funded scientists to conduct research on human embryonic pluripotent stem cells, so long as these stem cells are derived by private parties from unused frozen embryos created for infertility treatment in private clinics (spare embryo research). The strong support of celebrities like Christopher Reeve and Michael J. Fox, as well as the millions of people and their families whose lives may be improved by stem cell research, may help assure that these regulations remain in effect during George W. Bush's presidency. While people in the United States and abroad generally approve the creation and destruction of human embryos for stem cell research, there is virtually no

---

\* Evelyne Shuster is an Adjunct Associate Professor of Philosophy in the Department of Psychiatry at the University of Pennsylvania Health System. She is also Director of the Human Rights and Ethics Program at the Philadelphia Veterans Affairs Medical Center.

support for creating children by cloning or for attempting to genetically engineer embryos to make “better babies.”

Reproductive cloning has raised near unanimous public condemnation and has spurred a flurry of laws and legislative proposals to outlaw cloning humans. Opponents have argued that reproductive cloning robs children of their right to personal identity and commodifies them by treating children as interchangeable, thereby devaluing human life and threatening human rights and dignity.<sup>3</sup> Cloning proponents argue that reproductive cloning is no different from currently used methods of assisted reproduction, and that cloning would offer infertile couples just another way to have genetically related children, with the added bonus of almost absolute genetic control over their offspring.

The new proposals that favor research into therapeutic cloning to broaden our understanding of, and hopefully to find new treatments for, diseases have tamed the public outcry at doing research on a slippery slope that could lead to human reproductive cloning. But no responsible scientist or physician currently suggests attempting to help create a child by cloning because it is not safe. Questions of safety and efficiency are legitimate concerns and may eventually be answered, at least partially, by stem cell research. Once therapeutic cloning research begins, there may be no sufficient safeguards to prevent sliding down a slippery slope from therapeutic to reproductive cloning, and then to genetic engineering. The ethical issues surrounding human embryo research (including the ethics of human cloning) are thus even more relevant today than they were at Dolly’s birth in 1997.

Philosopher Paul Lauritzen, the editor of the series of essays that make up *Cloning and the Future of Human Embryo Research*, is on the right track in wanting to put Dolly’s birth in the context of embryo research. As Lauritzen explains in his introduction: “cloning is an outgrowth of IVF [in vitro fertilization] technology, and we are unlikely to formulate an adequate view of cloning unless we take this fact into account.”<sup>4</sup> We thus need to see the birth of the cloned sheep, “as an intermediate step—perhaps the penultimate step—leading from the birth of the first IVF baby, Louise Brown, toward the birth of the first cloned human baby.”<sup>5</sup>

Framing reproductive cloning within the realm of embryo research is defensible; but broadening the frame to place cloning within the realm of human reproduction is much more problematic. Nonetheless, Lauritzen takes human reproduction as the focal point of this work, following the lead of the 1994 report of the NIH Human Embryo Research Panel (HERP),<sup>6</sup> and the President’s National Bioethics Advisory Commission (NBAC) Report on human cloning.<sup>7</sup>

## BOOK REVIEW—SHUSTER

Lauritzen correctly notes that when NBAC decided to avoid the issues related to embryo research (to sidestep the pitfalls of abortion politics that mired HERP), it created two additional problems. First, it allowed NBAC to proceed as if the status of the preimplantation embryo, and thus of embryo research, had already been resolved, which is simply not the case. Second, it gave the impression that the cloning issues identified by NBAC were unrelated to the status of embryo. Thus, “[o]nce we recognize the continuity between cloning and human embryo research, we are also in a position to see that there are two obvious points of departure for this volume.”<sup>8</sup>

This selection of essays is a direct result of choosing an embryo/reproduction framework. The book is composed of three parts: Part 1, “Moral Status of the Preimplantation Embryo;” Part 2, “Debates Surrounding Cloning and Embryo Research;” and Part 3, “Public Policy Issues.” There are three appendices reproducing the Executive Summaries of the HERP report and the NBAC report, including excerpts from Chapter 2 of the NBAC report entitled, “The Science and Application of Cloning.” The fourteen contributors to the twelve chapters are drawn mainly from the field of philosophy and religion (only three authors are from the legal profession). To me this is most welcome in an era where philosophy and religion have ceased to strongly offer their critiques in terms of majesty and sanctity, respectively. Six of the fourteen contributors were either members of HERP, NBAC, or both, and for the most part, their chapters offer little new. Nonetheless, the chapters read as if they were written for the book, and the knitting together of ideas that intertwine them is a credit to the book’s editor.

Specifically, the first four of the five chapters in Part I of the book are well argued and sufficiently open-ended for legitimate metaphysical discussion of the moral status of the embryo. These chapters provide excellent information, particularly with regard to the meaning of the phrase “respect for embryos.”<sup>9</sup> As Bonnie Steinbock accurately observes in the first chapter, “giving meaning to this concept of ‘special respect’ or ‘serious moral consideration,’ however, remains problematic.”<sup>10</sup> She takes the position that human embryos have interests rather than rights because they lack sentience, consciousness, or even simple awareness of any kind. Thus, she argues, neither embryos nor gametes are harmed, wronged, or deprived of anything by being used in research or destroyed. She nonetheless insists that respect for human embryos can still be a meaningful concept regardless of the way embryos are disposed of so long as they are used to generate worthwhile benefits for humankind.<sup>11</sup> Steinbock adopts a version of utilitarian philosophy according to which the

right act is a function of the good it generates. The obvious difficulty is determining what counts as a good and what counts as a harm, and how to measure them to determine the right balance between the good of scientific progress and the harm society could incur in terms of less respect for human life by using embryos instrumentally.

Courtney Campbell responds to Steinbock in the book's second chapter (Source or Resource? Human Embryo Research as an Ethics Issue). Campbell laments the pervasive influence of scientific reductionism that causes us to view embryos as consumer products like a box of Cheerios. He asks "whether the embryo is a source of life or a re-source of science."<sup>12</sup> Would it be too much to ask to show regret, anguish, or some form of verbal expression of how unfortunate it is to perform research on embryos? He believes that the moral consideration of respect for embryos as illustrated by HERP and Steinbock is "merely a political facade used to disguise and make publicly palatable scientific interests in having access to embryos for research."<sup>13</sup> But Campbell stops short of saying that if respect for human embryos is to have any meaning at all, destructive embryo research should not be done.

The third and fourth chapters, by Maura Ryan (Creating Embryos for Research: On Weighing Symbolic Costs) and James Keenan (Casuistry, Virtue, and the Slippery Slope: Major Problems with Producing Human Embryonic Life For Research Purposes) focus on whether there is any justification for creating human embryos for research. Keenan, for example, stresses that the way we view embryos determines how we use them. And thus, "our willingness to manipulate the embryo determines our understanding of the nature of the human embryo."<sup>14</sup> Rather than trying to settle the issue of the nature of embryos (on which people may never agree), we should speak about what it is that humans do when we produce human embryos for research. How does this affect the way we are as humans qua humans, and our human dignity? This is a fair question since, as Richard McCormick has observed, what we do to embryos we do to ourselves, and this affects who we are and the way we view each other as human beings.<sup>15</sup>

The fifth chapter, by Alta Charo (Every Cell is Sacred: Logical Consequences of the Argument from Potential in the Age of Cloning), provides a bridge to the second part of this volume. She rightly points to the problems (if not the absurdity) that logically follow from the argument that we ought to respect embryos because of their potential to become human beings. This argument, she contends, would have us granting similar respect to sperm and eggs because both are necessary to produce embryos, and also to any somatic cell, each of which cloning techniques

## BOOK REVIEW—SHUSTER

can use to produce a human embryo (of course with a human egg).

The second part of the book includes three essays, two of which are authored by Dan Brock and Ronald Green, and are very supportive of human cloning. The other essay by Laurie Zoloth (*Born Again: Faith and Yearning in the Cloning Controversy*), is the strongest and most original in the collection. Zoloth, a Jewish scholar, properly labels cloning to produce a child “replication” rather than reproduction, and insightfully speculates that replication cloning is intriguing “because it offers an answer to the inevitability of alterity, estrangement, and death.”<sup>16</sup> Zoloth argues that cloning represents the human desire for immortality, and points to our fear of death and our longing for eternal return even if this is only by way of genetic recycling. To her, cloning is neither about infertility (which can be more easily managed with other means), nor about children. Cloning is about self-absorption and narcissistic dreams (or nightmares).

Zoloth rightly maintains, for example, that “if cloning were about children, we would need to be thinking about the 100,000 children in foster care in America,” (and I would add, the ten million AIDS orphans in Africa) “and the way that race, illness, or oddity makes children unadoptable, untakeable.”<sup>17</sup> Zoloth muses that genetic replication cloning is an answer to our deepest, “staggering mesmerizing panic at our own mortality,”<sup>18</sup> and “reflects the deepest of yearnings: for redemption and resurrection into a better, purer, and transformed self, a self given a second chance at an embodied human journey.”<sup>19</sup> This is why the “cloning controversy reaches so deeply into the popular imagination.”<sup>20</sup> Her excellent essay makes for valued reflection that is likely to lead us to the heart of the human soul, desire, and human frailty, and to the fundamental question of why we contemplate human cloning. But because it is so ambitious, it seems out of place in this part of the book.

The third and final part of the book includes four essays on public policy issues, and illustrates the complexities and pitfalls at the intersection of ethics and public policy, as well as the difficulties of achieving consensus in bioethics. Carol Tauer, for example, points to “the current impasse in public policy and the impasse in moral debate on human embryo research, showing that the moral debate flounders because of different views as to where the burden of proof lies.”<sup>21</sup> She properly asks: “Do those who defend embryo research have to show why it is morally justifiable, or do those who oppose it have to show why it is morally wrong?”<sup>22</sup>

The last essay in the book, by Heidi Forster and Emily Ramsey (*The Law Meets Reproductive Technology: The Prospect of Human Cloning*), highlights the limits of legislative proposals on cloning in the United States and abroad. Regarding the United States, the authors raise the question of

whether there is a fundamental constitutional right to clone. In their answer, they cite the argument that “opponents of human cloning assert that cloning does not fall within our previously recognized constitutional liberties because cloning is distinguishable from currently practiced reproductive technologies.”<sup>23</sup> In this view, they quote Steinbock with approval: “cloning correlates with ‘replication’ not ‘reproduction,’ and is not constitutionally protected.”<sup>24</sup> The point should not be lost; if the “opponents” are right, those who seek constitutional protection for cloning as just another method of reproduction will be disappointed, just as those bioethicists who recently sought constitutional protection for physician-assisted suicide as a form of autonomy were disappointed.

This category point, i.e., cloning is genetic replication, not human reproduction, also made by Zoloth, is at the heart of the cloning debate, and has not been resolved. Ignoring or marginalizing it does not resolve or even move the debate along. If raised at the outset of the book, rather than at the end of the book, this category controversy would have had the potential to shatter the entire book’s framework. It would have rendered irrelevant the familiar landmarks of embryo research and human reproduction (exemplified by the HERP and NBAC reports) that bear the stamp of time, geography, and culture, and with which we have become accustomed to seeing cloning’s supporters use to try to tame the creative and wild profusion of ideas about cloning.

If cloning is not reproduction, then it represents a discontinuity with current reproductive techniques, and thus there can be no similarities between them: they are different in kind rather than degree. I think this view is correct, and that the cleavage between cloning and reproduction makes the concept of reproductive cloning itself an oxymoron. Reproduction is sexual; cloning is asexual and produces a child without the genetic input of two members of the opposite sex. Asexual cloning is genetic replication because the child so conceived has only a copy of an already existing genome that has been replicated. Of course we can try to make genetic relationships “fit” into our current mold, but it is not easy. In asexual genetic replication, the clone child will be the twin sister or brother of his or her genetic “original.” But the genetic original will also fill the social role of parent. But this is neither an unproblematic twin relationship nor an unproblematic parent-child relationship. Unlike “natural” identical twins, created by sexual reproduction, the cloned child is a “delayed twin,” born after (usually long after) the birth of her genetic twin original. This “delayed twin” condition is unique to cloning, and creates intractable problems of filiation.

The central ethical issue is not the status of the human embryo created

## BOOK REVIEW—SHUSTER

by the Dolly technique, but the liberty of the resulting child. In delayed genetic replication, the child must be compared to his or her “original,” almost necessarily in a lopsided fashion. Vital restraints are likely to be imposed on that child to follow in the wake of its genetic original, or to avoid the “mistakes” made by the original. As Hans Jonas insightfully argued more than twenty-five years ago, genetic replication robs the resulting child of his or her right to an open future, a crime Jonas believed should not be committed even once.<sup>25</sup> Of course, genes do not exclusively determine who we are. Environment matters mightily. But this statement does not change the intent or content of cloning, which must exclusively be to make a genetic duplicate. That is all cloning is, and that is all cloning can do. The prevailing international view is that creating a genetic replica of an existing person is degrading to children by limiting their liberty and thereby violating fundamental principles of human rights and human dignity.

Moreover, far from being a treatment for infertility (as Green argues), cloning abolishes the very concept of infertility itself. This is because in asexual replication it would no longer matter for the purposes of having a genetically related child whether the would-be parents are gametically fertile or not. Each of our somatic cells can be used for replication cloning, and thus everyone is able to self-replicate (assuming eggs are available and women are willing to gestate the resulting embryos). If replication cloning is equated with reproduction, to speak of cloning as treatment for infertility is meaningless.

The unique characteristic of cloning demonstrates that it introduces a fundamental difference in producing a child. One cannot simply assume continuity between cloning and other methods of assisted reproduction. The difference in kind in producing a child by cloning requires an analysis of the threshold above which there are differences, and below which there are similarities. Such analysis is indispensable for the establishment of even the simple form of ordering such as the one adopted in this volume. Failure to recognize this, is the book’s most substantive weakness.

I recently read a piece by *New York Times* columnist, George Johnson that caused me profound uneasiness and prompted me to reflect on how a culture experiences the proximity of things, establishes support of things we apprehend in one great leap, and determines the order by which these things must be considered. In this piece, Johnson shows how “it has become natural to think of [the Internet] biologically” and quotes scientists who say they have found a universal law, “a power law,” that supports a number of listed things ranging from cells to the Internet.<sup>26</sup> Included in this list are: (1) a flourishing ecosystem of computers, (2) a

sprawling brain of Pentium-powered neurons, (3) the networks of molecules in a cell, (4) the networks of species in an ecosystem, (5) the networks of people in a social group, (6) the Internet, and (7) the metabolic networks of life-sustaining chemical reactions inside cells. Johnson thus asks: How does this kind of ordering arise? In what kind of structure do these seemingly diverse categories exist?

French philosopher Michel Foucault raises similar questions in his book, *The Order of Things*, when he asks: What do we do when we classify? What is the ground for establishing the validity of classification? On what support and according to what grid of identities, similarities, and analogies have we become accustomed to sort out so many different and similar things?<sup>27</sup> Foucault observes (in the context of a simple kind of enumeration) that while each of the things listed can be assigned a precise meaning and a demonstrable content, there is a “monstrous quality” in the enumeration that destroys the common ground on which the meeting of each of these things is possible. In his words: “Absurdity destroys the *and* of the enumeration by making impossible the *in* where the things enumerated would be divided up.”<sup>28</sup>

The category into which we “fit” human cloning constitutes the common ground that links similar and different things, and each thing to all the others. If, for example, we add cloning to the list of assisted reproductive technologies, which includes *in vitro* fertilization, artificial insemination, embryo splitting, embryo manipulation, infertility, etc., then cloning will take on the quality of the things enumerated in that category. Likewise, if we add cloning to the list of species alteration, which includes asexual replication, egg manipulation, germline modification, etc., then cloning will take on a much more sinister aspect.

“Fitting” cloning into the species alteration category is consistent with what Ian Wilmut himself has said about his project to improve animals in the context of animal cloning:

We do not seek simply to clone animal—to produce facsimiles of existing creatures. This was never our agenda; it is just what other people thought was important. *Cloning for us is and always has been an exercise in science finding out how cells work and a technology that enables the genetic transformation of animals.*<sup>29</sup>

As Wilmut explains, somatic cell nuclear transfer was not even invented for genetic replication but rather primarily to be used for germline genetic modification to “improve” or “genetically enhance” embryos that would produce animals with altogether new characteristics (like the ability to produce specific proteins useful in the production of

## BOOK REVIEW—SHUSTER

human drugs).<sup>30</sup> This category point makes the possible application of somatic cell nuclear transfer cloning to humans much more troublesome. It is fair to say that it would have made for a much more up-to-date book had a discussion of human genetic enhancement through embryo manipulation been included.

The pairing of somatic cell nuclear transfer cloning and genetic enhancement is powerful because it makes genetic replication (of embryos) a means to the end of genetic transformation of the human species. Genetic engineering through new or improved genes that can be added to somatic cells (later used as the nuclei of embryos) to produce “smarter” people, people with enhanced memory, and people resistant to diseases and environmental insult, may be much more appealing to most people than simple genetic replication. And if we want to try to stop the eugenic project of genetically enhancing embryos to improve the “quality” of our children, to the extent that human cloning techniques are necessary to make genetic enhancement efficient, outlawing human replication cloning will effectively outlaw human genetic enhancement as well.

We must think globally and at the species level about proposed interventions that threaten to change the inherent characteristics of what it means to be human. For this we need a mechanism to protect the integrity of the human species, and a way to shift the burden of proof to those who would change it, rather than to those who would protect it. But American bioethicists are ill-equipped to provide a valuable contribution because of their almost exclusive focus on the patient-physician relationship. This focus gives American bioethicists a lot to say about reproductive treatment for individuals and couples, but almost nothing to say about species integrity or alteration. The lack of any species-level debate or global vision is reflected in this book, and means that this selection of essays can provide only a limited introduction to human cloning, and even less about the more challenging question of human species alteration by genetic manipulation of which human cloning is the harbinger.

## References

1. Ian Wilmut et al., *Viable Offspring Derived from Fetal and Adult Mammalian Cells*, 385 NATURE 810, 810-13 (1997).
2. CHIEF MED. OFFICER'S EXPERT GROUP REVIEWING THE POTENTIAL OF DEV. IN STEM CELL RESEARCH & CELL NUCLEAR REPLACEMENT TO BENEFIT HUMAN HEALTH, DEP'T OF HEALTH, STEM CELL RESEARCH: MEDICAL PROGRESS WITH RESPONSIBILITY (adopted December 19, 2000) (United Kingdom).
3. GEORGE J. ANNAS, SOME CHOICE: LAW, MEDICINE AND THE MARKET 3-43 (1998).
4. Paul Lauritzen, *Introduction*, in CLONING AND THE FUTURE OF HUMAN EMBRYO RESEARCH 4 (Paul Lauritzen ed., 2001) [hereinafter CLONING].
5. *Id.* at 2.
6. NAT'L INST. OF HEALTH, REPORT OF THE HUMAN EMBRYO RESEARCH PANEL (1994).
7. NAT'L BIOETHICS ADVISORY COMM'N, CLONING HUMAN BEINGS (1997).
8. Lauritzen, *supra* note 4, at 3.
9. Bonnie Steinbock, *Respect for Human Embryos*, in CLONING, *supra* note 4, at 30.
10. *Id.* at 28.
11. *Id.* at 30.
12. Courtney S. Campbell, *Source or Resource? Human Embryo Research as an Ethical Issue*, in CLONING, *supra* note 4, at 37.
13. *Id.* at 40.
14. James Keenan, *Casuistry, Virtue, and the Slippery Slope: Major Problems with Producing Human Embryonic Life for Research Purposes*, in CLONING, *supra* note 4, at 69.
15. Richard A. McCormick, *Blastomere Separation: Some Concerns; Embryo Splitting as a Treatment of In Vitro Fertilization*, HASTINGS CENTER REP., Mar.-Apr. 1994, at 14.
16. Laurie Zoloth, *Born Again: Faith and Yearning in the Cloning Controversy*, in CLONING, *supra* note 4, at 132-133.
17. *Id.* at 135.
18. *Id.* at 134.
19. *Id.* at 133.
20. *Id.* at 134.
21. Carol A. Tauer, *Responsibility and Regulation: Reproductive Technologies, Cloning, and Embryo Research*, in CLONING, *supra* note 4, at 145.
22. *Id.*
23. Heidi Forster & Emily Ramsey, *The Law Meets Reproductive Technology: The Prospect of Human Cloning*, in CLONING, *supra* note 4, at 215.
24. *Id.* at 216.
25. HANS JONAS, PHILOSOPHICAL ESSAYS: FROM ANCIENT CREED TO TECHNOLOGICAL MAN 162-63 (1974).
26. George Johnson, *First Cells, Then Species, Now the Web*, N.Y. TIMES, Dec. 26, 2000, at F1-F2.
27. MICHEL FOUCAULT, THE ORDER OF THINGS: AN ARCHEOLOGY OF THE HUMAN SCIENCES (1994).
28. *Id.* at xvii.
29. IAN WILMUT ET AL., THE SECOND CREATION: DOLLY AND THE AGE OF BIOLOGICAL CONTROL 153 (2000) (emphasis added).
30. *Id.*