

Symposium: Creating Stem Cells by Research Cloning: Scientific, Ethical, Legal & Policy Challenges

Introduction

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The following collection of articles represents the product of a day-long conference held at the University of Minnesota entitled *Creating Stem Cells by Research Cloning: Scientific, Ethical, Legal & Policy Challenges*. The conference was hosted by the Consortium on Law and Values in Health, Environment & the Life Sciences; the Joint Degree Program in Law, Health & the Life Sciences; the Academic Health Center; and the Stem Cell Institute at the University of Minnesota. This conference highlighted the science, ethics, law, and policy issues related to the creation of human embryonic stem cells by somatic cell nuclear transfer (SCNT), a technique often colloquially referred to as research cloning or therapeutic cloning. The conference was organized in an effort to offer analysis of the latest cutting-edge science, as well as a forum for dispassionate discussion of one of the most heated policy debates in decades. As a matter of disclosure, the conference was funded entirely by University funds and sought to include not only speakers with the most current knowledge about the science and implications of SCNT research, but speakers representing a range of views across the admittedly broad spectrum of thought on the ethical and policy issues on the topic. Full video and conference information is available at <http://lifesci.consortium.umn.edu/conferences/scnt.php>. All views expressed in the symposium articles resulting from the conference are those of the authors.

In addition to this introduction, the collection of articles in

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this issue of *MJLST* is made up of a colloquy among three discussants and two full-length articles. The colloquy presents the remarks offered by three commentators: Dr. Frank Cerra, the University's Sr. Vice President for the Health Sciences and McKnight Presidential Leadership Chair at the Academic Health Center, who opened the conference; and two participants in the roundtable discussion that concluded the conference, Prof. Bryan Dowd, Professor and Director of the Graduate Programs in Health Policy and Management in the University's School of Public Health, and Prof. Dan Kaufman, a McKnight Land-Grant Professor and Assistant Professor of Medicine with the University's Stem Cell Institute. The two full-length articles are by the two plenary speakers from the portion of the conference entitled *The Ethics of SCNT*: Prof. Ronald Green from Dartmouth University ("*Five Ethical Questions for Stem Cell Research*") and Prof. Nigel Cameron from the Institute on Biotechnology and the Human Future at the Chicago-Kent College of Law ("*Brave New World at the General Assembly: The United Nations Declaration on Human Cloning*") writing with colleague Anna Henderson.

As Prof. Green summarizes in his article, in late 2001 a biotechnology company called Advanced Cell Technology (ACT) reported success in their efforts to clone a human embryo by SCNT. They made clear that their intent was to create embryos using this technique only for the purpose of isolating stem cells (so-called research cloning) and not for use in attempts to produce a cloned human being (so-called reproductive cloning). But the announcement of a successfully cloned human embryo, even for research purposes, rekindled the fear that cloning identical copies of humans cannot be far off. This technical reality was then and remains a distant prospect, but the successful cloning of embryos was viewed as another step along the path.

Research cloning of embryos is itself controversial, as many people believe the intention for which embryos are created is critically important in thinking about the ethics of their use. On this view, using embryos that were created in fertility clinics—originally intended for use in reproduction—is more acceptable than creating embryos expressly for the purpose of research, and creating embryos expressly for research purposes (whether by *in vitro* fertilization or SCNT) does not treat them with adequate respect. But for others, the moral costs of

creating early stage embryos exclusively for research purposes are outweighed by the promise of significant medical benefits. While therapeutic cloning is morally very different from trying to create an identical copy of a human through reproductive cloning, as we heard throughout the conference, the techniques used to create the embryos would be exactly the same. In the case of reproductive cloning, instead of collecting stem cells from the SCNT embryo, doctors would place the cloned embryo in a woman's uterus in the hope that it would result in a pregnancy and the birth of a cloned baby. For some, this implies that therapeutic cloning will inevitably lead to reproductive cloning. If the use of SCNT is acceptable, the challenge will be to distinguish therapeutic from reproductive cloning and create policies that make the distinction stick.

One attempt has been to craft terms to create distinctions for the purpose of policy making. By calling the therapeutic cloning process "nuclear transplantation" or "therapeutic cellular transfer," and the result an "activated egg" or "ovasome"—to name a few terms used at the hearings—experts in science and ethics, and some politicians, were trying to separate the technique from the *Brave New World*¹ future conjured by the term "cloning" and to avoid the term "embryo." But do such verbal gymnastics help or hinder public discussion and policymaking?

The purpose of the research performed at ACT and elsewhere was to create a source of embryonic stem cells with genetic makeup identical to the DNA used to make them. The technique used was exactly the same as with Dolly the sheep, which has not been called anything but cloning, and it was part of the successful effort to create an embryo. So if the technique used creates an organism that has the same properties as a human embryo, can be used in research like human embryos, and if implanted in a woman's uterus would develop like a human embryo, then shouldn't we think about whether to call it a human embryo? To call it something different distracts us from the real issues at hand: Should we use human embryos for research and therapies, and if so, is it acceptable to make and clone them? As Ronald Green comments in his article, words matter. But clear discussion and debate are even more

1. Nigel M. de S. Cameron & Anna V. Henderson, *Brave New World at the General Assembly: The United Nations Declaration on Human Cloning*, 9 MINN. J.L. SCI. & TECH. 145 (2008).

important. To that end, the articles and colloquy in this collection offer some perspectives on the ethics, law, and policy issues in the use of SCNT for the purpose of creating stem cells, and on stem cell research more generally.

Ronald Green's article outlines five ethical questions for SCNT research on stem cells: (1) what is the proper term for this research; (2) is it ethically appropriate; (3) what is the moral status of the product of SCNT and what should it be called ("embryo" or something different); (4) is it ethical to pay women as egg donors; and (5) can SCNT as a technique be altered to reduce the moral qualms about it?² Green gives his clear answers to all these questions—it will be up to the reader to assess whether they are convincing.

In their article, Nigel Cameron and Anna Henderson give a thorough account of the process by which the U.N. General Assembly first considered the issues and then issued a declaration on the use of SCNT. The article is a valuable resource about an important international policy process that received little attention. Cameron and Henderson contend that this relative lack of attention has "hampered efforts to depoliticize the domestic debate about cloning," which has been "too readily framed in terms of wider science policy and ethics issues, and little placed in a global context."³ It is not clear that greater attention to U.N. Declarations will solve domestic debates on this or other issues, but additional thoughtful analysis that advances public discussion can certainly help.

To that end, this collection ends with remarks from three commentators organized into a colloquy.⁴ Dr. Frank Cerra, the University's Sr. Vice President for the Health Sciences, comments on the importance of universities as the place for controversial research such as SCNT, and for the dialogue that must take place so that such research can be dealt with transparently and with appropriate scrutiny.⁵ The pieces in

2. Ronald M. Green, *Five Ethical Questions for SCNT Stem Cell Research*, 9 MINN. J.L. SCI. & TECH. 131 (2008).

3. Cameron, *supra* note 1, at 199.

4. Colloquy, *Scientific, Ethical and Policy Challenges for Public Universities Engaging in Stem Cell Research*, 9 MINN. J.L. SCI. & TECH. 239 (2008).

5. Frank B. Cerra, *A University of Minnesota Perspective on SCNT Research: Past Challenges and Strategy for the Future*, 9 MINN. J.L. SCI. & TECH. 239 (2008).

this collection are an attempt to host just such a dialogue. In a similar vein, Prof. Dan Kaufman contends that universities are the best place to develop lifesaving innovations, and that in spite of years of research and advancement in the treatment of diseases like cancer, cures remain elusive. Kaufman argues, then, that there is a “moral imperative” to engage in stem cell research, including SCNT, in order to advance treatments and seek new therapies as expeditiously as possible.⁶ Bryan Dowd has a quite different view on the role of science and scientists in the debates on SCNT and stem cell research more generally. He is concerned that the scientific community not only allows misinformation to go uncorrected, but also sometimes issues such misinformation: “[i]f the scientific establishment is engaged in the propagation of fairy tales rather than telling the truth then the public is justified in withdrawing its support for specific avenues of research.”⁷

These are fair claims to the extent that the scientific community is itself part of what many contend is the overhyping of the promise of stem cell research. More problematic are Dowd’s claims that scientists ought to stick to science and avoid pronouncements regarding the ethics of their research:

Scientists are free to speak their mind as voting citizens, as amateur or in rare cases trained, theologians or ethicists, but when speaking as voting citizens, theologians or ethicists, they must drop the mantle of science. If they do not, there are an increasing number of people in the public square who will remove it for them—and that is neither pretty nor good for the scientific enterprise.⁸

The problem with this assertion is that it seems to claim that (1) scientific expertise has no bearing on moral arguments, and (2) that scientists (or others untrained in ethics or theology) have no relevant expertise when it comes to making statements about moral issues. First, good ethics requires good facts, so we cannot expect to make good decisions on difficult moral issues unless we are well-informed. This is the follow-on to Dowd’s appropriate warning about propagating fairy tales rather than the truth. The most useful facts will come from those with the greatest expertise, and in the area of SCNT or

6. Dan S. Kaufman, *The Role of the University in Promoting Human Embryonic Stem Cell Research and Stem Cell Therapies*, 9 MINN. J.L. SCI. & TECH. 255 (2008).

7. Bryan Dowd, *Science, Morality and Universities*, 9 MINN. J.L. SCI. & TECH. 246 (2008).

8. *Id.* at 247.

other stem cell-related research, that must include the scientific community. Second, in some very real sense we are all experts in morality, since we must and do make moral decisions every day, whether trained as ethicists or not. While there is much to debate about how humans acquire this moral sense, there is not much argument about whether it exists. If this is right, then scientists have just as much claim to making moral arguments about science as do politicians or ethicists. Professional training in ethics comes in handy in learning how to analyze the arguments of others and in strengthening your own. I hope that Dowd's stated view is not where we end up in debates like the one we're having on SCNT, lest we find ourselves on the wrong end of Einstein's famous line, "[s]cience without religion is lame, religion without science is blind."⁹ Indeed, we need what Prof. Dowd suggests in the conclusion to his remarks: "a brighter future of increased public respect and support for a scientific community that values rigor, honesty and clarity over political and economic gain and even cultural authority."¹⁰ This is a future that we can all endorse.

9. Albert Einstein, *Science and Religion*, in SCIENCE PHILOSOPHY AND RELIGION: A SYMPOSIUM 209, 211 (1941).

10. Dowd, *supra* note 7, at 251.