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The Politics of Embryonic Discourse

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In our brave new world of stem cells, clones, and parthenotes,¹ how should we talk about early human embryos? In fashioning a response to this very thorny question, Ann Kiessling has a core message.² It is: (1) that new science produces “new” conceptuses;³ (2) that science and scientists have failed to differentiate (with appropriate clarity) these new *ex vivo* conceptuses from those created *in vivo*;⁴ (3) that new, more appropriate and scientifically-informed, terms are necessary;⁵ and (4) that this new language should transform the public discourse about human embryos.⁶ No one would deny that the subtleties of human embryology are neglected in public debate. This alone should compel scientists to choose terms that make scientific sense and to provide clear definitions. Dr. Kiessling has accepted well that challenge. But I also think that Kiessling is up to something else in her essay. She is attempting to reposition science, to gain for it a more influential voice in the heated politics of embryonic discourse. It is this point of concern that I shall address.

For much of contemporary jurisprudence, “[i]t is the fashion now to claim that all is politics, and that every frame of thought is an ideology. From this claim it follows that theory and practice are nearly indistinguish-

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¹ In February 2004, South Korean scientists reported that they had made the world’s first cloned human embryos, and had extracted stem cells from one of them. See Gina Kolata, *Cloning Creates Human Embryos: South Koreans Say Stem Cells Were Extracted*, N.Y. TIMES, Feb. 12, 2004, at A1; see also Stephen S. Hall, *Specter of Cloning May Prove a Mirage*, N.Y. TIMES, Feb. 17, 2004, at F1 (considering whether a normal human blastocyst is the same as a cloned one).

² Ann A. Kiessling, *What Is an Embryo?*, 36 CONN. L. REV. 1051 (2004).

³ *Id.* at 1051. This notion is from Janet L. Dolgin, *Embryonic Discourse: Abortion, Stem Cells, and Cloning*, 31 FLA. ST. U. L. REV. 101, 151 (2003).

⁴ Kiessling, *supra* note 2, at 1053-54. Kiessling also laments the scientific community’s missed opportunities to differentiate—so that legislators and courts might better understand—the nature, character, and potential of a human embryo as it develops through various stages *in vivo*. *Id.*

⁵ *Id.*

⁶ *Id.*

able, since every theoretical proposition is also a political ploy.”⁷ Under the pretext of presenting a masterful primer on human embryology and assisted reproduction to a nonscientific audience, Kiessling is making a hidden grasp for political advantage. Her strategy is a well-tested one.⁸ First, concede that the human embryo has “symbolic” value for many,⁹ but insist that its moral or ontological status is not in question here. Do not try to answer the hard question: when does life begin? Leave that to non-empirical disciplines such as philosophy and theology. Instead, pose innocuously that science can help the public debate by combating the “imprecise”¹⁰ use of the term *embryo*. Then, strategically redefine the embryo in “nature’s view”¹¹ to exclude its earliest developmental stages prior to implantation, either *in vivo* or *ex vivo*, and the living entities resulting from nuclear transplant technology or parthenogenesis. Finally, having tightened society’s “vastly more generous”¹² view of the embryo, argue that “cleaving eggs [eggs activated with or without sperm] are not [yet] embryos”¹³ and so neutralize the super-heated debate about the embryo’s status in the case for stem cell research and cloning-for-biomedical-research.

Once enlightened in this fashion, our moral squeamishness about sacrificing embryos to advance science should diminish for, as scientist Kiessling informs us, to harvest stem cells requires destroying *only* cleaving human eggs or ovasomes and not symbolically more valuable human embryos. The adverb *only* is important here. While Kiessling concedes that a new public debate on the ethics of cleaving egg research is inevitable, she is tacitly confident that, with a politically active scientific community now encouraged to inform policymakers “of the naturally limited developmental potential of each early conceptus,”¹⁴ societal approval permitting and fund-

⁷ Eva T.H. Brann, *Eight Theses on Liberal Education*, at <http://arachnid.pepperdine.edu/goseweb/GBQuarterly/winter00/brann.html> (last visited Apr. 5, 2004) (on file with the Connecticut Law Review).

⁸ See, e.g., Jane Maienschein, *What’s in a Name: Embryos, Clones and Stem Cells*, 2 AM. J. BIOETHICS 12 (2002) (arguing that it is vitally important to define the term “embryo” clearly and carefully to aid legislative debate on stem cell research).

⁹ For the meaning of, and debate on, the “symbolic” value of human embryos, see Kevin P. Quinn, *Embryonic Stem Cell Research as an Ethical Issue: On the Emptiness of Symbolic Value*, 13 ST. THOMAS L. REV. 851 (2001).

¹⁰ Kiessling states:

It may be futile to attempt to replace “embryo” with another more accurate term with respect to human eggs fertilized by sperm. The hope in this regard is to educate the public that a cleaving egg is not the same stage of “embryo” as an “embryo” two weeks following implantation in the uterus.

Kiessling, *supra* note 2, at 1089.

¹¹ *Id.* at 1064.

¹² *Id.*

¹³ *Id.* at 1087.

¹⁴ *Id.* at 1088.

ing embryonic stem cell research, including publicly funded destruction of cleaving eggs and ovasomes, will come.¹⁵

What is troubling about Kiessling's argument? It adopts an attitude of professional paternalism.¹⁶ One can brief her argument in this way: Let professional human embryologists, who "have largely resisted worrying about definitions not deemed scientifically important,"¹⁷ now present to courts and legislators the events and processes of human development in transparently clear language, and the masses will not be able to resist the captivating authority of science. Listen to science—as it devalues the status of early embryos in promoting "embryos-as-salvation for individual, sick children and disabled heroes"¹⁸—for its argument in support of stem cell research should be a no-brainer!¹⁹

This policy perspective is clearly wrong. The President's Council on Bioethics ("PCB") is helpful here. It endorses the position that

biological findings, however relevant, are not themselves necessarily decisive morally A description of early embryonic development is necessary though not sufficient to an understanding of the nature and worth of an early embryo. It is not sufficient because any purely biological description requires some interpretation of its anthropological and moral significance before it can function as a guide to action.²⁰

I read Kiessling to intimate that her biological findings—themselves not controversial²¹—have greater policy value than the PCB or I am willing to grant. Kiessling's findings are necessary, though not sufficient, to hold firm in advocating for more extensive research on embryonic stem cells. Something more is needed.

Invoking the scientific reality of early human development does not, in itself, illuminate the choices to be made about early embryos. Yet good science must challenge policies founded on erroneous assumptions about the nature, character, and moral standing of human embryos. And Kiessling is using good biological evidence to make her case for three terminological choices: For human eggs fertilized with sperm, implantation is "a

¹⁵ *Id.* at 1092.

¹⁶ I acknowledge that my critique may also suggest professional insecurity. I am not a scientist.

¹⁷ Maienschein, *supra* note 8, at 12.

¹⁸ Dolgin, *supra* note 3, at 158.

¹⁹ See Kiessling, *supra* note 2, at 1092 (arguing that "[w]e have the opportunity to potentially treat incurable diseases estimated to afflict half of all Americans").

²⁰ PRESIDENT'S COUNCIL ON BIOETHICS, MONITORING STEM CELL RESEARCH 75 (Jan. 2004), available at www.bioethics.gov/reports/stemcell/ (last visited Mar. 31, 2004) (on file with the Connecticut Law Review) [hereinafter PRESIDENT'S COUNCIL].

²¹ Compare *id.* at 157-81 (notes on early human development), with Kiessling, *supra* note 2, at Part V.

more accurate requirement for embryo status;²² following that definition, nuclear transplants and parthenotes should not be called “embryos.”²³ I shall comment on each.

Kiessling’s biology of reproduction matches the dominant view in human embryology that “there is no such *thing* as ‘*the embryo*.’”²⁴ Rather, it is “a reified name for a *dynamic* entity [in an early phase of its development].”²⁵ More importantly, Kiessling makes the case for meaningful discontinuity²⁶ between the blastula and gastrula stages (of a developing fertilized egg). She asserts that a preimplantation blastula is not an “embryo,” based on the high rate of activated egg loss during the first few days after fertilization.²⁷ Still, other scientists urge caution in the use of statistics about early embryo loss.²⁸

By definition, a preimplantation blastula is different from an implanted and differentiated gastrula. But is it not “alive” or not an “individual” in the same way the gastrula is?²⁹ Not simply grounded in biology, this question appeals also to a moral or even metaphysical claim about the meaning of human life. To be sure, observations on the meaning of potentiality and the tools of philosophical and theological anthropology continue to inform the stem cell debate.³⁰ For instance, certain liberal Catholics (among others)

do not consider the human embryo in its earliest states (prior to the development of the primitive streak or to implantation) to constitute an individualized human entity with the settled inherent potential to become a human person. The moral status of the embryo is, therefore (in this view), not that of a person, and its use for certain kinds of research can be justi-

²² Kiessling, *supra* note 2, at 1089.

²³ *Id.* at 1091-92.

²⁴ PRESIDENT’S COUNCIL, *supra* note 20, at 12; see Kiessling, *supra* note 2, at 1092 (stating that “[u]nless they are transferred to a uterus, they will not, in any event, become human embryos.”).

²⁵ PRESIDENT’S COUNCIL, *supra* note 20, at 12 n.*.

²⁶ On the importance of biological continuity or discontinuity in early human development, see PRESIDENT’S COUNCIL, *supra* note 20, at 76-84.

²⁷ See Kiessling, *supra* note 2, at 1064 n.33, Part C. Kiessling underscores *natural* failure in human reproduction: “The magnitude of the task of a single egg to engender a new individual is, of itself, the reason it fails far more often than it succeeds. Failure can occur at many stages.” *Id.* at 1056.

²⁸ See, e.g., Kevin T. Fitzgerald, *Human Embryonic Stem Cell Research: Ethics in the Face of Uncertainty*, in GOD AND THE EMBRYO: RELIGIOUS VOICES ON STEM CELLS AND CLONING 131, 134-39 (Brent Walters & Ronald Cole-Turner eds., 2003).

²⁹ See Maienschein, *supra* note 8, at 15.

³⁰ See, e.g., Gene Outka, *The Ethics of Stem Cell Research*, in GOD AND THE EMBRYO, *supra* note 28, at 29. See generally 3 NAT’L BIOETHICS ADVISORY COMM’N, ETHICAL ISSUES IN HUMAN STEM CELL RESEARCH: RELIGIOUS PERSPECTIVES (June 2000) (chronicling a variety of religious views on stem cell research) [hereinafter NBAC REPORT].

fied.³¹

While many observers would judge this approach very useful, I worry that it may reflect “a society often ready to define embryos instrumentally but anxious at the same time to mask that fact from itself.”³²

Should we distinguish “the *constructed embryo* . . . from the embryo *produced sexually*”?³³ Since a nuclear transplant (or ovasome) is constructed by means of somatic cell nuclear transfer or similar technologies and not produced from the union of gametes, it seems appropriate to champion a new term in order to distinguish two organisms that differ *as to origin*. The danger here is to ignore the biological reality that both organisms share the same human genome and so then to treat them differently. Kiessling falls into that trap as she explains “strictly speaking,” nuclear transplants “would only become embryos in the classical sense if they are transferred to the uterus and initiate implantation. At this stage they could rightfully be termed ‘embryos’.”³⁴ She states further that “somatic-cell-ovoplast-constructs undergo cleavage and development to the blastocyst state morphologically similar to zygotes and parthenotes, which is the state at which pluripotent stem cells could be isolated.”³⁵ Finally, “[s]ince the derivation of pluripotent stem cells will be the goal for human somatic-

³¹ Margaret A. Farley, *Roman Catholic Views on Research Involving Human Embryonic Stem Cells*, in NBAC REPORT, *supra* note 30, at D-4 (testimony of Dr. Margaret A. Farley, Yale University). For a similar discussion on the embryo’s status as a person, see also Lisa Sowle Cahill, *The Embryo and the Fetus: New Moral Contexts*, 54 THEOLOGICAL STUD. 124 (1993); Richard A. McCormick, *Who or What is the Preembryo?*, 1 KENNEDY INST. ETHICS J. 1 (1991); Thomas A. Shannon, *Human Embryonic Stem Cell Therapy*, 62 THEOLOGICAL STUD. 811 (2001); Thomas A. Shannon & A. B. Walter, *Reflections on the Moral Status of the Pre-Embryo*, 51 THEOLOGICAL STUD. 603 (1990). To make their case, these authors highlight the biology of twinning. See, e.g., Cahill, *supra*, at 127-28; McCormick, *supra*, at 8-12. For a discussion on twinning, see PRESIDENT’S COUNCIL, *supra* note 20, at 79-80. Contrast with Pontifical Academy for Life, *Declaration on the Production and the Scientific and Therapeutic Use of Human Embryonic Stem Cells*, in GOD AND THE EMBRYO, *supra* note 28, at 163, 167 (“On the basis of a complete biological analysis, the living human embryo is—from the moment of the union of the gametes—a human subject with a well defined identity From this it follows that as a ‘human individual’ it has a right to its own life.”); Edmund D. Pellegrino, Testimony, in NBAC REPORT, *supra* note 30, at F-3 (“In the Roman Catholic view, human life is a continuum from the one-cell stage to death. At every stage, human life has dignity and merits protection. Upon conception, the biological and ontological individuality of a human being is established.”). For an argument against the possibility of twinning as a marker, see Robert P. George (joined by Alfonso Gómez-Lobo), Personal Statement, in THE PRESIDENT’S COUNCIL ON BIOETHICS, HUMAN CLONING AND HUMAN DIGNITY 294, 301-05 (2002), available at http://www.bioethics.gov/reports/cloningreport/pcbe_cloning_report.pdf (last visited Mar. 25, 2004) (on file with the Connecticut Law Review).

Notably, the 1990 British Parliament, in sanctioning some embryo research, agreed that preimplantation blastulas “have not progressed to the point that they can be considered individuals.” Maienschein, *supra* note 8, at 14 (quoting *The Meaning of Life*, 412 NATURE 255 (2001)).

³² Dolgin, *supra* note 3, at 156.

³³ *Id.* at 153.

³⁴ Kiessling, *supra* note 2, at 1091.

³⁵ *Id.*

cell-ovoplast-constructs, they will never achieve 'embryo' status."³⁶

Early embryos and nuclear transplants share the same biological and ontological status and so should be treated similarly—with equal respect. I part company with the canons of postmodernism to put the matter this way: early embryos and nuclear transplants deserve respect "in virtue of *the kind of entity they are*"³⁷ and any instrumentalist reason for their existence is immaterial.³⁸

Parthenogenesis, from the Greek word for "virgin birth," is the development of a new organism—genetically identical to the mother—from an egg without fertilization by sperm, whether or not the resulting organism develops eventually into an adult. Some scientists suggest that the parthenogenetic organism or "parthenote" may represent an ethically acceptable alternative source of embryonic stem cells without the need to harm normal or cloned early embryos.³⁹ In fact, the human parthenote may be a *tertium quid*, an organism that can give rise to stem cells but is incapable of maturing beyond an early stage because it is genetically programmed to die early in its development. Consistent with her views on normal and cloned early fertilized eggs, Kiessling champions the point: "Although parthenotes deserve the respect afforded a cell as precious as an egg, they are not embryos and therefore debates about moral, ethical, or legal status should not apply."⁴⁰

That opinion has, of course, been challenged. Moreover, it makes sense to say that Kiessling's enthusiasm for parthenotes is premature. To my mind, *current* scientific data does not allow us to endorse Kiessling's view, because it fails to demonstrate conclusively that the human parthenote is not similar to a human ovasome.

Using chemicals that mimic a sperm's arrival, Kiessling and colleagues were first to trigger parthenogenesis in human eggs.⁴¹ As reported, the eggs activated were diploid: "The stimulus was applied before the egg underwent the normal ejection of half its chromosomes, which typically occurs at the time of fertilization to accommodate the sperm's DNA."⁴² This is an important detail. It seems fair to ask *what* is the difference between a

³⁶ *Id.*

³⁷ George, *supra* note 31, at 296.

³⁸ This view is consistent with my opposition to creating embryos for research purposes. See Quinn, *supra* note 9, at 860.

³⁹ See, e.g., Jose B. Cibelli et al., *The First Human Cloned Embryo*, 256 SCI. AM. 44 (2002) (reporting the first successful induction of parthenogenesis in human eggs, although the resulting parthenotes did not contain any stem cells). Author Kiessling is a major contributor here. See Jose B. Cibelli, Ann A. Kiessling et al. *Somatic Cell Nuclear Transfer in Humans: Pronuclear and Early Embryonic Development*, 2 J. REGENERATIVE MED. 25 (2001) (same).

⁴⁰ Kiessling, *supra* note 2, at 1089.

⁴¹ See Cibelli et al., *supra* note 39.

⁴² Rick Weiss, 'Parthenotes' Expand the Debate on Stem Cells, WASH. POST, Dec. 10, 2001, at A11, available at LEXIS, News Library, Wpost File.

parthenote and an ovasome if both present a case of the human genome. For some scientists, the parthenote might be judged not human because its “genomic imprinting” is wrong.⁴³ I am not qualified to pronounce on that claim but I do agree that parthenogenesis “really stretches the categories, if it does not in fact break them down entirely” and so “demands much more thought and research.”⁴⁴ In the face of ambiguity, the human parthenote should be treated *as if* it were a ovasome.

This commentary represents “a delicate juggling of public policy, philosophy and theology, and scientific data”⁴⁵ and I hope “a reminder to all of us of the importance of epistemic humility”⁴⁶ before the realities of the natural world and the data of science. Let the dialogue continue.

⁴³ See Nicholas Wade, *New Stem Cell Source Called Possible*, N.Y. TIMES, Feb. 1, 2002, at A23. “Genomic imprinting” has been described as the differential expression of genetic material depending on parental origin. See, e.g., IAN WILMUT ET AL., *THE SECOND CREATION: DOLLY AND THE AGE OF BIOLOGICAL CONTROL* 127 (2000). In mammals, parental imprinting ensures the functional inequality of paternal and maternal genomes in the fertilized egg, and causes developmental failure of embryos produced by parthenogenesis. *Id.* at 127-28. In short, both male and female genomes must be present to ensure that a fertilized egg has a possible future. *Id.*

⁴⁴ Thomas A. Shannon, *Human Cloning: A Success Story or a Tempest in a Petri Dish?*, AMERICA, Feb. 18, 2002, at 15, 18.

⁴⁵ John F. Kavanaugh, *Debating Life*, AMERICA, Mar. 22, 2004, at 25 (reviewing *GOD AND THE EMBRYO*, *supra* note 28).

⁴⁶ Farley, *supra* note 31, at D-4.

