CHAPTER 4: ETHICAL ISSUES IN HUMAN STEM CELL RESEARCH

Benefits and Constraints

The principal moral justification for promoting research with human pluripotent stem cells is that such research has the potential to provide direct health benefits to individuals suffering from disease. A ban on federal funding of human stem cell research would slow the progress of this important research. As John Fletcher argues, "the ban conflicts with several of the goals of medicine, especially healing, prevention and research. Beneficence impels the pursuit of each of these goals and undergirds moral obligations to prevent or ameliorate human suffering caused by disease."[1] In a letter to President Clinton and the Congress, thirty three Nobel laureates echo this view and assert that "[t]hose who seek to prevent medical advances using stem cells must be held accountable to those who suffer from horrible disease and their families, why such hope should be withheld."[2]

While the invocation of the potential benefits of stem cell research furnishes strong moral grounds for supporting the research, considerations of social utility are not always sufficient to morally justify actions. There are moral constraints on the promotion of the social good. For example, considerations of justice and respect for persons often trump considerations of social utility. Those who oppose research involving the use of stem cells derived from aborted fetuses and embryos argue that the research is morally impermissible because it is implicated in the killing of human beings who have the moral status of persons. Opponents of the research maintain that the constraints against killing persons to advance the common good apply equally

[1] John Fletcher, "Deliberating Incrementally on Human Pluripotential Stem Cell Research," p. 17 (NBAC commissioned paper).

[2] March 4, l999 letter, p.2

to fetuses and embryos. This chapter considers these and other objections to research uses of stem cells derived from (1) fetal tissue, (2) spare IVF embryos, and (3) embryos created expressly for research purposes.

Research with Stem Cells Derived from Fetal Tissue

The derivation of stem cells from the tissue of aborted fetuses raises the issue of the relevance of the morality of elective abortion to stem cell research. It is evident that some views about the morality of abortion are relevant. For those who believe that abortion is permissible because the fetus has no moral standing, there are no significant moral barriers to research using stem cells derived from fetal tissue. Restrictions that separate decisions to donate fetal tissue from decisions to abort might be necessary, but their purpose is to protect the mother against coercion and exploitation rather than to protect the fetus.

What is less clear is whether one can both morally oppose abortion and support this method of deriving stem cells. A common view in the literature on the ethics of human fetal tissue transplantation research is that we can support the research without assuming that abortion is morally permissible. As long as guidelines are in place which ensure that abortion decisions and procedures are separated from considerations of fetal tissue procurement and use in research, using aborted fetuses for research is no more problematic than using other cadavers donated for scientific and medical purposes.

Opponents of the research use of fetal materials obtained from induced abortions dispute the claim that we can dismiss the relevance of the morality of abortion. They appeal to two grounds in asserting the relevance of the moral question: (l) Those who procure and use fetal material from induced abortions are complicit with the abortions which provide the material; (2) It is impossible to obtain valid informed consent for the use of fetal materials. Each of these

claims merits consideration.

Complicity

There are two general ways in which one can maintain that those involved in the research use of stem cells derived from aborted fetuses are complicit with abortion: (1) They bear some causal responsibility for abortions; (2) They symbolically align themselves with abortion.

1. Causal Responsibility

A researcher or tissue procurer may bear direct or indirect causal responsibility for abortions. The former kind of responsibility exists where one directly influences a woman to have an abortion (e.g., by offering financial incentives) or is directly involved in the performance of an abortion from which fetal tissue is procured. There are several measures which can help prevent direct responsibility for abortions:

- The consent of women for abortions must be obtained prior to requesting or obtaining consent for the donation of fetal tissue.
- Those who seek a woman's consent to donate must not discuss fetal tissue donation prior to her decision to donate.
- A prohibition against payment to women for fetal tissue.
- A separation between tissue procurement personnel and abortion clinic personnel must be maintained.
- A prohibition against any alteration of the timing of or procedures used in an abortion solely for the purpose of obtaining tissue.

Those involved in research uses of stem cells derived from fetal tissue would be indirectly responsible for abortions if the perceived benefits (or promise of benefits) of the research contributed to an increase in the number of abortions. Opponents of fetal tissue research argue that it is not realistic to suppose that we can always keep a woman's decision to abort separate from considerations of donating fetal tissue, as many women facing the abortion decision are

likely to have already gained knowledge about fetal tissue research through widespread media attention to the issue. The knowledge that having an abortion might promote the common good will, opponents argue, tip the balance in favor of going through with an abortion for some of the many women who are ambivalent about it. More generally, some also argue that the benefits achieved through the routine use of fetal tissue will further legitimate abortion and result in more socially permissive attitudes and policies concerning abortion.

Although there has been one empirical study examining whether the potential for fetal tissue transplantation is likely to influence abortion decisions, the issue remains largely speculative. The study involved a survey which asked, "If you became pregnant and knew that tissue from the fetus could be used to help someone suffering from Parkinson's disease, would you be more likely to have an abortion?"[3] 12 percent (32) of the women responded in the affirmative. The authors conclude that the option to donate tissue may influence some women's abortion decisions. The main deficiency of the study, however, is its reliance on a hypothetical which is stripped of the complexities of the actual circumstances a pregnant woman considering abortion might be operating under. As Dorothy Vawter and Karen Gervais have noted: A[G]iven how situation-specific women's abortion decisions are, it is unclear what useful information can be obtained from asking women global hypothetical questions about whether they believe the option to donate would affect their decision to terminate a 'generic' pregnancy sometime in the future."[4]

It is difficult to deny that there is a risk that knowledge of the promise of research on stem cells derived from fetal tissue will play a role in some abortion decisions, even if only very rarely.

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[3] Douglas K. Martin, et. al., AFetal Tissue Transplantation and Abortion Decisions: A Survey of Urban Women,@ *Canadian Medical Association Journal*, 1 Sept. 1995: 153 (5), 548.

[4] Dorothy E. Vawter and Karen G. Gervais, ACommentary on Abortion and Fetal Tissue Transplantation,@ *IRB*, Volume 15, no. 3 (1993), p. 5

However, it is not clear that much moral weight ultimately attaches to this fact. One might be justified in some instances in asserting that Abut for" research using fetal tissue a particular woman would not have chosen abortion. But one might assign this kind of causal responsibility to a number of factors which figure into abortion decisions without making ascriptions of complicity. For example, a woman might choose to have an abortion principally because she does not want to slow the advancement of her education and career. She might not have had an abortion in the absence of policies which encourage career development. Yet, we would not think it appropriate to charge those who promote such policies as complicit in her abortion. In both this case and that of research, the risk of abortion is an unintended consequence of a legitimate social policy. The burden on those seeking to end such policies is to show that the risks of harm resulting from the policies outweigh the benefits.[5] This minimally requires evidence of a high probability of a large number of abortions which would not have occurred in the absence of those policies. There is, however, no such evidence at present; nor is there any reason to think that it is forthcoming.

2. Symbolic Association

Agents can be complicitous with wrongful acts for which they are not causally or morally responsible. One such form of complicity arises from an association with wrongdoing which symbolizes acquiescence in the wrongdoing. As James Burtchaell characterizes it, "It is the sort of association which implies and engenders approbation that creates moral complicity. This situation is detectable when the associate's ability to condemn the activity atrophies."[6] Burtchaell maintains that those involved in research on fetal tissue enter a symbolic alliance with the practice of abortion in benefiting from it.

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[5] Cf., James F. Childress, AEthics, Public Policy, and Human Fetal Tissue Transplantation Research,@ *Kennedy Institute of Ethics Journal,* June l991, 93-121, at 109.

[6] James T. Burtchaell, AUniversity Policy on Experimental Use of Aborted Fetal Tissue,@ *IRB: A Review of Human Subjects Research* l988; 4: 7-11, at p.9.

A common response to this position is that there are numerous circumstances in which persons benefit from immoral acts without tacitly approving of those acts. For example, transplant surgeons and patients may benefit from deaths resulting from murder and drunken driving but nevertheless condemn the wrongful acts.[7] A researcher who benefits from an aborted fetus need not acquiesce in the act of abortion any more than the transplant surgeon who uses the organs of a murder victim acquiesces in the homicidal act.

This response has not, however, been satisfactory to opponents of fetal tissue research. They maintain that fetal tissue research implicates those involved in a kind of evil which cannot be attributed to the transplant surgeon in the example above. Unlike drunken driving and murder, abortion is an institutionalized practice in which certain classes of humans (which pro-lifers regard as the moral equivalent of persons) are allowed to be killed. In this respect, some foes of abortion suggest that fetal tissue research is more analogous to research which benefits from victims of the Holocaust.[8]

But whatever one thinks of comparisons between the victims of Nazi crimes and aborted fetuses—and many are understandably outraged by them—one could concede the comparisons without concluding that fetal tissue research is morally problematic. There are, of course, some who believe that those who use data derived from Nazi experiments are morally complicit with those crimes. For example, Seidelman writes: "By giving value to (Nazi) research we are, by implication, supporting Himmler=s philosophy that the subjects' lives were >useless' This is to

[7] Cf., John Robertson AFetal Tissue Transplant Research is Ethical,@ *IRB: A Review of human Subjects Research*, l988 4: 5-7; D. Vawter, W. Kearney, K. Gervais, ALCaplan, D. Garry, C. Tauer, *The Use of Human Fetal Tissue: Scientific, Ethical and Policy Concerns*, (Minnesota: University of Minnesota, l990).

[8] Cf., James Bopp, Jr., AFetal Tissue Transplantation and Moral Complicity with Induced Abortion,@ in P. Cataldo and A. Moracszewski, eds., *The Fetal Tissue Issue: Medical and Ethical Aspects* (Braintree, MA: Pope John Center, l994).

argue that, by accepting data derived from their misery we are, *post mortem*, deriving utility from otherwise >useless= life. Science could thus stand accused of giving greater value to knowledge than to human life itself."[9] But one need not adopt this stance. Instead, one can reasonably hold that the symbolic meaning of scientists' actions must be divined solely from their intentions. As Benjamin Freedman writes:

> A moral universe such as our own must, I think, rely on the authors of their own actions to be primarily responsible for attaching symbolic significance to those actions . . . [I]n using the Nazi data, physicians and scientists are acting pursuant to their own moral commitment to aid patients and to advance science in the interest of humankind. The use of data is predicated upon that duty, and it is in seeking to fulfill that duty that the symbolic significance of the action must be found.[10]

It is likewise reasonable to maintain that the symbolic significance of support for research using stem cells derived from fetal tissue lies in the desire to promote public health and save lives. This research is allied with a noble cause, and any taint that might attach from the source of the stem cells diminishes in proportion to the potential good which the research may yield.

Consent

There is wide agreement that women should not be allowed to terminate a pregnancy for the purpose of donating fetal material. There are two consent requirements which can help insulate the decision to donate from the decision to abort: (a) Informed consent for an abortion must be prior to the consent to donate; (b) In the consent process for abortion, there must be no

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[9] W.E. Seidelman, AMengele Medicus: Medicine=s Nazi Heritage,@ *The Milbank Quarterly* 66, 221-239 (l989).

[10] Benjamin Freedman, AMoral Analysis and the Use of Nazi Experimental Results,@ in *When Medicine Went Mad*, ed. A. Caplan (l992), p.151.

(unsolicited) mention of the possibility of using fetal materials in research and transplantation.

The most serious charge against these restrictions on the consent process is that it is disrespectful of the autonomy of women considering abortion to withhold information from them regarding the donation of fetal tissue. Because this information might be important to a woman's abortion decision, the failure to disclose the information would render the consent for the abortion ethically invalid.[11]

There are, however, a number of difficulties with this argument. First, it is not clear that information about the possibility of donation is materially relevant to the abortion decision, since, as discussed above, there is not adequate evidence that the option of donation (where financial incentives and directed donations are prohibited) would ever function as a reason for a woman to abort a fetus. Second, assuming the possibility of donation is materially relevant to some women's abortion decisions, there is an obligation not to disclose the option if it is unethical for women to abort for this purpose. Finally, if clinic personnel are permitted to discuss donation prior to obtaining a woman's consent for abortion, women may be (or feel) pressured to have an abortion, in which case the voluntariness of the consent will be in doubt.[12]

Another problem about consent concerns the matter of who has the moral authority to consent to donate fetal tissue. Some object that, from an ethical standpoint, a woman who chooses abortion forfeits her rights to determine the disposition of the dead fetus. Burtchaell, for instance, argues that "the decision to abort, made by the mother, is an act of such violent abandonment of the maternal trusteeship that no further exercise of such responsibility is

[11] Douglas Martin, AAbortion and Fetal Tissue Transplantation,@ *IRB: A Review of Human Subjects Research*, Vol. 15, No. 3 (1993), pp. 1-3.

[12] See Vawter and Gervais, note 2.

admissable.@[13]

John Robertson argues that this position mistakenly assumes that the disposer of cadaveric remains acts as the guardian or proxy of the deceased. Instead, "a more accurate account of their role is to guard their own feelings and interests in assuring that the remains of kin are treated respectfully."[14] But even if we suppose that a woman does forfeit her moral authority to determine the disposition of her aborted fetus, it is not clear that informed consent is always ethically required for the use of cadaveric remains. The requirement of informed consent in medical practice is largely meant to protect the autonomy of persons. In the absence of any person whose autonomy must be respected, it does not seem that the failure to obtain consent violates anyone's rights.[15]

Research With Stem Cells Derived from Spare IVF Embryos

Research with stem cells obtained from human embryos poses moral difficulties which do not arise in the case of fetal tissue. Whereas researchers using fetal tissue are not responsible for the death of the fetus, researchers using stem cells derived from embryos will typically be implicated in the destruction of the embryo. This is true whether or not researchers participate in the derivation of embryonic stem cells. As long as embryos are destroyed as part of the research enterprise, researchers using embryonic stem cells (and those who fund them) will be complicit in the death of embryos.[16]

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[13] Burtchaell, note

[14] Robertson, note, p.6

[15] Cf. D. Gareth Jones, AFetal Neural Transplantation: Placing the Ethical Debate Within the Context of Society=s Use of Human Material,@ *Bioethics*, Vol. 3, No. 1, 22-43 (l991).

[16] There may be some circumstances in which researchers using embryonic stem cells would not be complicit in the destruction of embryos. John Robertson argues that there would

An ethical analysis of research with embryonic stem cells must address the issue of the moral status of embryos. The debate about the moral status of embryos has traditionally revolved around the question of whether the embryo has the same status as children and adult humans, with a right to life which cannot be sacrificed for the greater good. On one end of the spectrum of positions on the issue is the view that the embryo is a mere cluster of cells which has no greater standing than any other human cells. From this perspective, there are few, if any, limitations on beneficial research uses of embryos. At the other end of the spectrum is the view that embryos are persons with a right to life. On this view, research involving the destruction of embryos is absolutely prohibited. An intermediate position is that the embryo merits respect as human life, but not the level of respect accorded persons. Whether research using embryos is acceptable on this account depends upon just how much respect the embryo is thought to deserve.

While the moral permissibility of research using stem cells derived from embryos turns upon the status of the embryo, the prospects of mediating the stand-off between opposing views on the matter are dim. A brief consideration of the competing positions will reveal some of the difficulties of resolving the issue.

The standard move made by those who deny the personhood of embryos is to identify one or more psychological or cognitive capacities which are thought essential to personhood (and a concomitant right to life) but which embryos lack. The capacities most commonly cited include consciousness, self-consciousness, and reasoning.[17] The problem faced by such accounts is that

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be no complicity where an investigator=s Aresearch plans or actions had no effect on whether the original immoral derivation occurred.@ Robertson, AEthics and Policy in Embryonic Stem Cell Research,@ *Kennedy Institute of Ethics Journal* (forthcoming, l999).

[17] Cf. , Mary Anne Warren, "On the Moral and Legal Status of Abortion, *The Monist*, vol. 57 (l973); Michael Tooley, *Abortion and Infanticide* (Oxford, l983). Joel Feinberg, AAbortion,@ in Tom Regan ed., *Matters of Life and Death* (Random House, l986).

they seem either under or over-inclusive, depending on which capacities are invoked. If one requires self-consciousness or reasoning, most early infants will not satisfy the conditions for personhood. If sentience is regarded as the touchstone of the right to life, then non-human animals will also possess this right. Since most of those who reject the personhood of the embryo believe that newborn infants do possess a right to life and animals do not, these capacities cannot generally be accepted as morally distinguishing embryos from other human beings.

Of course, those who reject that embryos have the standing of persons can maintain that the embryo is simply too nascent a form of human life to merit the kind of respect which we accord more developed humans. However, in the absence of an account which decisively identifies the first stage of human development at which destroying human life is morally wrong, one can reasonably hold that it is not permissible to destroy embryos.

Those who oppose the destruction of embryos believe that there are positive arguments which support their position. The basic claim is that embryos are human beings, and as human beings they have a right to life. The humanity of the embryo is thus thought to confer the status of a person upon it. The problem here is that the premise that all human beings have a right to life is not self-evidently true. Indeed, many believe that the premise conflates two categories of "human beings"—namely, the genetic and the moral.[18] On this view, mere genetic humanity is not sufficient to render a being a member of the moral community. While it is not clear that those who advance this position can establish the point at which genetic humans first become moral humans, those who oppose the destruction of embryos fail to establish that we can ascribe moral personhood to all genetic humans.

The conflict between competing views on the moral status of the embryo appears to be an

[18] Cf. Warren, note 2

interminable one because each view operates with a fundamentally different conception of the meaning and value of human life. As Ronald Dworkin argues (in the abortion context), the ultimate source of the conflict seems to be a disagreement about whether "the natural investment in human life is transcendentally important," so that "premature death is the greatest frustration of life possible."[19] In this sense, the conflict over the status of the embryo might be regarded as "at bottom *spiritual*."[20]

NBAC does not presume to be in a position to settle the perennial debate over the moral status of embryos. Ideally, public policy recommendations on the use of embryos in research should be formulated in terms which individuals with opposing views on the status of the embryo can accept. As Thomas Nagel argues, "In a democracy, the aim of procedures of decision should be to secure results that can be acknowledged as legitimate by as wide a portion of the citizenry as possible."[21] Amy Gutmann and Dennis Thompson similarly argue that the construction of public policy on morally controversial matters should involve a "search for significant points of convergence between one's own understandings and those of citizens whose positions, taken in their more comprehensive forms, one must reject."[22]

R. Alta Charo offers an approach to policy on embryo research, which seeks to accommodate the interests of individuals who hold conflicting views on the status of the embryo. Charo argues that we can avoid the issue of moral status altogether by addressing the issue of the proper limits of embryo research in terms of political philosophy rather than moral philosophy:

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[19] Ronald Dworkin, *Life=s Dominion* (Vintage, l994), p.91.

[20] Ibid., p.101.

[21] Thomas Nagel, AMoral Epistemology,@ in *Society=s Choices* (National Academy Pr., l995), p.212.

[22] Amy Gutmann and Dennis Thompson, *Democracy and Disagreement* (Harvard, l996), p.85.

> The political analysis entails a change in focus, away from the embryo and the research and toward an ethical balance between the interests of those who oppose destroying embryos in research and those who stand to benefit from the research findings. Thus, the deeper the degree of offense to opponents and the weaker the opportunity for resorting to the political system to impose their vision, the more compelling the benefits must be to justify the funding.[23]

On Charo=s view, once we recognize that the substantive conflict among fundamental values surrounding embryo research cannot be resolved in a manner which is satisfactory to all sides, the most promising move is to perform a cost-benefit analysis of proceeding with the research. Thus, one could acknowledge that embryo research will deeply offend many people, but argue that the potential health benefits for this and future generations outweigh the pain experienced by opponents of the research.

It is, however, questionable whether Charo=s political analysis successfully brackets the moral status issue. One might object that placing the lives of embryos in this kind of utilitarian calculus will only seem appropriate to those who already presuppose that embryos do not have the status of persons. After all, we would expect most of those who believe **B**or who genuinely allow for the possibility **B**that embryos have the status of persons, to regard such consequentialist grounds for sacrificing embryos as problematic.

An acceptable political approach must seek to develop public policy around points of convergence in the moral positions of those who disagree about the status of the embryo. Of course, as long as the disagreement is cast strictly as one between those who think the embryo is

[23] R. Alta Charo, **A**The Hunting of the Snark: The Moral Status of Embryos, Right-to-Lifers, and Third World Women,@ 6 *Stan. L. & Policy Rev.* 11 (1995).

a person with a right to life and those who think it has little or no moral standing, the quest for convergence will be an elusive one. But there are grounds for supposing that this is a misleading depiction of the conflict. Once this is recognized, it will become clear that there is a sufficient amount of overlapping consensus on the status of embryos to justify some research uses of stem cells derived from them.

In his discussion of the abortion debate, Dworkin notes that, despite their rhetoric, a large faction of the opposition to abortion does not actually believe that the fetus is a person with a right to life. This is revealed through a consideration of the exceptions which they permit to their proposed prohibitions on abortion:

> It is a very common view, for example, that abortion should be permitted when necessary to save the mother's life. Yet this exception is also inconsistent with any belief that a fetus is a person with a right to live. Some people say that in this case a mother is justified in aborting a fetus as a matter of self-defense; but any safe abortion is carried out by someone else—a doctor—and very few people believe that it is morally justifiable for a third party, even a doctor, to kill one innocent person to save another.[24]

Some abortion conservatives further hold that abortion is morally permissible when a pregnancy is the result of rape or incest. Yet, as Dworkin comments, A[i]t would be contradictory to insist that a fetus has a right to live that is strong enough to justify prohibiting abortion even when childbirth would ruin a mother's or a family's life but that ceases to exist when the pregnancy is the result of a sexual crime of which the fetus is, of course, wholly innocent."[25]

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[24] Dworkin, note 4 at p.32.

[25] Ibid.

The importance of these exceptions in the context of research uses of embryos is that they suggest we can identify some common ground between liberal and conservative views on the permissibility of destroying embryos. Conservatives who allow these exceptions implicitly hold with liberals that very early forms of human life can sometimes be sacrificed to promote the interests of other humans. While liberals and conservatives disagree about the range of ends for which embryonic or fetal life can properly be sacrificed, there are some areas of convergence. Conservatives who accept that killing a fetus is permissible where it is necessary to save the life of the mother should agree with liberals that it is also permissible to destroy embryos where it is necessary to save people. It is not clear what permissible research goals for uses of embryos can be deduced from the rape and incest exceptions. However, since there is less agreement among conservatives about whether these should be exceptions, it is best not to attempt to draw too much from them. The following would seem a reasonable statement of the consensus at which most conservatives and liberals should be able to arrive:

> Research which involves the destruction of embryos is permissible where there is good reason to believe that it is necessary to cure life-threatening or severely debilitating diseases.[26]

Given the great promise of stem cell research for saving lives and alleviating suffering, this consensus appears to be sufficient to permit research uses of stem cells derived from embryos. Some might object that the benefits of the research are too uncertain to justify a comparison with the abortion exceptions. But the lower probability of benefits from research uses of embryos is balanced by a much higher ratio of potential lives saved for lives lost. Another objection is that it is unnecessary to use embryos for stem cell research because there are alternative means of

[26] It is worth noting that the abortion exceptions which serve as the basis for this consensus statement are exceptions to the law banning federal funding for abortions (Title V, Labor, HHS, and Education Appropriations,112 Stat. 3681-385, Sec. 509 (a) (1) &(2)).

obtaining stem cells. This is an important concern. The derivation of stem cells from embryos is justifiable only if there are no less morally problematic alternatives for advancing the research. At present, there appear to be strong scientific grounds for using embryos. But this is a matter which must continually be revisited as the science advances.

Research With Stem Cells Derived from Embryos Created for Research

The central arguments in favor of creating embryos expressly for stem cell research are that (1) there may be an inadequate supply of spare IVF embryos, and (2) an embryo created by somatic cell nuclear transfer may offer the most promising way to obtain autologous tissue for transplantation.

Assuming the creation of embryos is scientifically and/or medically necessary (which has not clearly been established at this point), the question arises whether there is a compelling moral distinction between using spare IVF embryos and embryos created for research.

The "discarded-created" distinction: on the intentions of embryo makers[27]

Thoughtful people have suggested that there is an important moral difference between doing research on embryos originally created with the intention of using them for reproduction and doing research on embryos originally created with the intention of using them for research. The former class of embryos becomes available for research only when it is discovered that members of it are no longer needed for reproduction; only then are they "discarded" and only then do they become available for research. The latter class of embryos would be "created" specifically for the purpose of research. According to this view, doing research on embryos originally created for reproduction ("discarded") is far easier to justify than is doing research on

[27] The discussion which follows is adapted from Eric Parens's commissioned paper. Staff is in the process of further developing this section.

embryos originally created for research.

One ethical intuition that seems to motivate the discarded-created distinction is that whereas the act of creating an embryo for reproduction is respectful in a way that is commensurate with the moral status of embryos, the act of creating an embryo for research is not. Because the first class of embryo was brought into being under moral circumstances—because the intentions of its makers were moral—research on them is deemed acceptable.[28] Because the second class of embryo was *not* brought into being under equally moral circumstances—because the intention of its makers were not equally respectable—research on them is deemed unacceptable. According to this view, the moral status of the embryo (and thus the moral status of research on it) is a function of the intention of its maker. The problem with this intuition is that it is difficult to see what the intention of the maker of something has to do with the moral status of that thing once it has come into being. We do not think, for example, that the moral status of children is a function of their parents' intention at the time of conception. If what something *is* obliges us to treat it some ways and not in others, then how it *came into being* is usually thought to be morally irrelevant.

It may be that another and closely related motivation for taking the discarded-created distinction seriously, is the intuition that whereas in creating embryos for reproduction scientists are helping nature along toward a natural purpose, in creating embryos for research they are not. According to this intuition, whereas helping nature along is praiseworthy, doing something different from what happens "naturally" is not. In other words, whereas intending to create embryos for the purpose of reproduction is *natural*, intending to create them for the purpose of research is *artificial.* The problem with this intuition is that both projects (reproduction and

[28] "For most people it is the intention to create a child that makes the creation of an embryo a moral act." George Annas, Arthur Caplan, and Sherman Elias, "The Politics of Human-Embryo Research—Avoiding Ethical Gridlock," *New England Journal of Medicine* 554, no. 20 (May 16, 1996): 1329-32 at 1331.

research) entail the intentional creation of embryos in the highly "artificial" context of an IVF clinic. Thus it is difficult to see why policy makers should give credence to the natural/artificial distinction in attempts to delineate the moral difference between doing research on embryos originally intended for reproduction and those originally intended for research.

But perhaps what motivates the distinction is not a view about the intention or purpose of the maker of the embryo at the time of creation, but, more pragmatically, a view about what to do with embryos once they are already here. Perhaps the motivation for the distinction is simply the view that it would be wasteful *not* to use embryos that are already here (regardless of their origin). Whereas this view about wastage may support the claim that using embryos that are already here is ethically acceptable, it sheds no light on whether creating embryos for research is acceptable. The holder of this view assumes that creating embryos for research is wrong. But that assumption is rejected by those who hold the "intermediate moral status" view of embryos. That is, by itself, the intuition about wastage cannot alone justify the created-discarded distinction.

It may be that another thing at work in taking the distinction seriously is the intuition that the good of helping an infertile couple become pregnant is *greater than* the good of doing embryo research. But insofar as most of that research aims at helping *many* couples overcome infertility and become pregnant, it is difficult to see why that good is of lesser moral weight than the good of helping an individual couple. If the good of helping an individual couple become pregnant is great enough to justify the creation of embryos, then it would seem that the good of helping many couples to become pregnant is an equally strong justification.

Another thing that clearly motivates taking the distinction seriously is a concern about instrumentalization.[29] The concern is that, different from creating embryos for the purpose of

[29] HERP, p. 53.

reproduction, creating them for the express purpose of research could make us increasingly think of them as mere means to our ends rather than as ends in themselves.

A last thing that may motivate the created-discarded distinction is a concern that allowing the creation of embryos for research will increase pressure on women to donate ova for that purpose. It is interesting to note, however, that the Canadian Commission suggested that *not* allowing the creation of embryos for research would increase pressure on women; the Canadians suggested that allowing researchers to create embryos for research would *decrease* pressure on women in IVF programs to donate unused eggs or zygotes.[30] Though the Canadian Commission's strategy might decrease pressure on women who already have undergone IVF procedures, there remains the question concerning when and where else researchers will get the eggs they need to create embryos. It is entirely plausible that that perceived need will create subtle or not-so-subtle pressure on women to donate ova.

IVF v. SCNT: On the different means used to create embryos

Do the *means* used to make the embryo make a moral difference? This question arises from the observation that whereas IVF as a means to achieve the purpose of reproduction is widely accepted, SCNT as a means to achieve the same purpose has been widely rejected.

Aside from concerns about risk, the rejection of "reproductive cloning" is based upon a widespread worry about the psychological consequences of producing children with means that replicate an extant genotype rather than creating a new one.[31] However, since here we are talking about using SCNT for research (*not* reproduction), worries about reproducing an extant genotype (worries about psychological consequences for children) are not relevant. If in general we accept the limited creation of embryos for research, and if by definition the harms-to-children concerns

[30] HERP, p. 56.

[31] *Cloning Human Beings: Report and Recommendations of the National Bioethics Advisory Commission.*

don't apply to using SCNT to produce embryos for research, then is there another reason to object to or worry about using SCNT for that purpose?

One reason to object to using SCNT to produce embryos for research might be that SCNT will significantly increase the supply of embryos—and thereby decrease respect or awe before them. This worry overlooks two facts. First, both "traditional" IVF and SCNT are limited by the number of available human ova; I am not aware of a reason to think that that number is going to grow fast. Second, at this point, it is more difficult to produce embryos with SCNT than with IVF; it is not reasonable to assume that researchers will rush to use SCNT. Thus it does not seem reasonable to worry that SCNT will significantly increase the number of, and thereby decrease the respect accorded, embryos in general.

There may, however, be another more substantial worry in this context. This is the worry that since embryos created by means of SCNT are not genetically unique[32], and since genetic uniqueness is one of the valued properties of embryos created by IVF, embryos created by means of SCNT may be respected less than those created by IVF. That is, one might worry that producing embryos by means of SCNT will contribute to an instrumental or cheapened view of them.

[32] To be more precise, the *nuclear* DNA of embryos produced by SCNT is not unique; because of the mitochondrial DNA contributed by the enucleated ovum, an embryo produced by SCNT *is* genetically unique. This minor technical point doesn't change the fact that many may worry about the moral significance of replicating (nuclear) genotypes, even in the research context.