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Deriving Morally Uncontroversial Human Pluripotent Stem Cell Lines Obligation or Election?

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Background

At present, the American public debate over the moral status of the human embryo has stalemated, and perhaps intractably so. On one side of the discussion, all or most of the stem cell research community (together with as many as two-thirds of the American public*) conclude that, because the human embryo is not a member of the human community, the creation and destruction of human embryos are far outweighed by the good end of developing prospective cures. On the other side of the debate, a very small number of scientists/clinicians and roughly one-third of Americans conclude that, because the human embryo is a member of the human community and, therefore, enjoys the same rights as mature human beings, the good end of embryonic stem cell research (ESCR), i.e., therapies for those suffering from degenerative diseases does not validate its unjust means (creation/destruction of embryonic human beings).

The impasse in the status-of-the-human-embryo debate is mirrored in the deadlock over federal funding. Investigators interested in pursuing ESC-derived therapies have applied for private and state funding. But they are lobbying, at the same time, for legislation that would appropriate federal monies for research using spare IVF embryos. In contrast, those with moral objections to ESCR have rallied behind postnatal (or adult) stem cell initiatives, insisting that these are the only research projects worthy of their state and federal tax dollar support.

ESC researchers respond by reminding their detractors that, even though adult stem cells may be effective in treating some kinds of degenerative conditions, only ESCs possess the stable pluripotency and plasticity needed to treat the entire spectrum of degenerative diseases.

Acknowledging both the debate gridlock and the unique therapeutic power of ESCs, people on both sides of these issues have begun to ask, "Would there be a way to derive human pluripotent stem cells (hPSCs)—the functional equivalent of hESCs—without destroying human embryos?" In other words, "Is it possible to offer all Americans the prospective benefits of pluripotent stem cell derived therapies without provoking the moral disdain of a sizable minority?"[†]

Scientific Exploration of Morally Unproblematic Sources of Human Pluripotent Stem Cell Lines: Its Nature and Motive

Recently, two different papers have responded positively to these provocative queries. Both have evaluated a cadre of morally uncontroversial research proposals for deriving human pluripotent stem cell lines (hPSCs) and then have recommended some of them for further public consideration and scientific investigation. One paper, released by the Burnham Institute (BI) ("Can Scientists Help Resolve the Stem Cell Research Controversy?"), was authored by Snyder, Hinman, and Kalichman; the second document, (*Alternative*

*As of this writing (8/26/05), a recent Gallup poll has reported that 56% of Americans support the creation of new stem cell lines from embryos, 40% oppose the practice, and 4% are undecided. In my description of the breakdown of populist support for ESCR, I use the terms "as many as" or "roughly" purposely. As we all know, the reliability of polls ultimately depends on the way their questions are formulated. So without knowing the composition of this particular poll, I accept its results only as approximations of how people, in fact, think about ESCR.

[†]As a member of this minority, I can personally testify that the grounds for my moral objections (and that of many of my like-minded associates) are, in the first place, based on discursive reasoning where fresh conclusions regarding the morality of ESCR follow from those already established by empirical human embryological data, not religion. To lump all moral dissent to ESCR into that of religious objection is inaccurate and, to the extent that it conjures up a caricature of the "minority" as a bunch of right-wing religious fundamentalists who could not reason logically if their life depended on it, very scurrilous. Furthermore, by locating the pursuit of pluripotent-derived therapies as a part of the natural right of every human being to pursue good health, I hope to debunk the error of justifying the disenfranchisement of those who morally object to destructive stem cell research by appealing to the majority rule. That there are a greater number of proponents of ESCR than there are opponents, in and of itself, does not mean the former constitutes majority rule. Only if a majority of the duly elected representatives of the American populace were to vote to, say, federally fund only ESC-based therapies, could one say that those who are of the numerical minority will just have to live with the situation, because the majority has thus ruled.

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Sources of Human Pluripotent Stem Cells), was published by the President's Council on Bioethics (PCOB).

My interest here is very narrow, to critique the characteristic way each of these documents delineates, first, the nature of further scientific testing of these morally unproblematic hypotheses and, second, the motive for doing so. "Testing" is the operative word here. We are uncertain of the scientific merit of these proposals due to the paucity of available evidence demonstrating their "technical prowess." And the only way we will ever know whether any of them might lead to an alternative source for stable hPSCs is to conduct further empirical studies. And "conducting further empirical studies" is precisely what I mean when I speak of "exploration of these morally unproblematic hypotheses."

The Nature of Further Exploration

The BI article concludes that, if research proposals for alternative sources of stable hPSCs could be tested "without impeding rational and expeditious progress," then scientists are obligated to donate resources toward that end. The BI article, it seems to me, is contending that, all things being equal,* it is the duty of a representative number of stem cell investigators to participate in this alternative research. In other words, the nature of this exploratory effort is not one of election but of obligation. By asserting duty, these authors are characterizing the researchers' participation as something required, as something rooted in (and, therefore, logically following from) the very activity and goals that men and women profess, or commit to, just by virtue of being biomedical researchers.

In contrast, the PCOB article, by insisting that the populace "must"/"ought" give serious consideration to these proposals, seems to reserve duty language solely for its direct appeal to the general public. For, indeed, when addressing the scientific community, the President's Council stops short of any reference to duty or obligation and merely "encourages" or "invites" researchers to conduct further empirical studies. I will admit that I could be misconceiving the import of the PCOB text altogether, but at the very least its failure to reference duty when soliciting involvement from researchers leaves the intent of this paper open to the following interpretation.

The effort of the research community in pursuing these alternatives is less a matter of obligation and more a matter of election, the pursuit of an option which might be left either to the largesse or the interests of the few.

The Motivation for Further Exploration

Acknowledging the challenges of living in a morally diverse society, both articles assign the same motive for investigating alternative sources: "to advance pluripotent stem cell research that all (Americans) can wholeheartedly support." Whenever it is possible for researchers to address the "thoughtful and well-informed moral objections" of some people (and certainly the proposals under discussion have that potential), it is reasonable for the scientific community to do so. The purpose/motive of testing alternative sources of hPSCs, then, is to make the benefits of morally unproblematic biomedical research available to all.

My Critique

In the nature of further exploration, I would contend that duty or obligation is the correct way to characterize the investigative effort of the research community[†] in respect to the proposals under discussion. Furthermore, I think that a representative number of stem cell investigators have an obligation to conduct further empirical studies precisely because of the meaning of their public vocation. As professionals, stem cell researchers have committed themselves to promoting the common good of society, particularly by amassing the scientific data that could lead to eventual therapies. In a manner analogous to those in the medical profession, then, stem cell researchers have placed themselves in a service relationship to patients, to those people struggling with degenerative diseases. And although the researcher-patient relationship may lack the personal immediacy and specificity of the clinical context, its existence and the obligation/duty it occasions are confirmed every time stem cell researchers remind us that developing therapies is the one passion, the one good end, that justifies everything else they do.

Based, then on the *raison d'être* of biomedical research, I would strongly contest any discussion of these alternative proposals that would portray researchers' involvement as an elective.

*The BI article explicitly mentions that future testing of morally uncontroversial proposals is predicated on the fact that it would not "detract significantly from the needs of others" nor impede "rational and expeditious progress." The scientific and ethical merits of the proposals—requisites mentioned in the BI report are explicated in the trifold metric adopted by the PCOB report: ethical soundness (avoids destruction of human embryos and does not raise "new ethical difficulties of its own"); scientific soundness (potential to "reliably produce stable, pluripotent stem cell lines of sufficient quality for biomedical research and, in due course, for clinical trials in human beings"); and practicality (if scientifically feasible, there is good reason to believe that the proposal will be adopted by: scientists as useful, by policy makers as legally eligible for federal support, and by the citizenry and their elected representatives as worthy of federal support).

[†]When I speak of the duty of the "scientific community" or the "research community," I am not referring to all researchers, only to those involved in stem cell research. I am arguing that the stem cell research community as a whole has an obligation to discuss the question I pose in my article and to do so in the context of their professional commitments to society and the common good. Following upon this type of justice-oriented, well-reasoned exchange, stem cell researchers have the responsibility, first, to encourage the investigation of all possible sources for hPSCs, second, to prevail on National Funding Organizations such as NIH to make grants available for the most meritorious of these proposals suggested to date, and then, third, to encourage and endorse a representative number of the brightest stem cell investigators and their associates to step forward to conduct further empirical studies. And, although it is beyond the scope of this article to discuss the merits of individual proposals, I think the fourth PCOB experiment, reprogramming human postnatal somatic cells to their former pluripotent state by mastering the mechanisms of cell dedifferentiation has the most promise. Furthermore, the prospects for the successful derivation of stable hPSCs from this particular proposal would be enhanced by the fact that new studies will built on the significant advances stem cell researchers have already made in unraveling the complexities of cellular reprogramming and dedifferentiation.

Besides the obvious benefit of defining the research effort as a profession-based duty, underscoring obligation has additional advantages. First, it highlights a core principle of biomedical research as a moral enterprise—the minimization of harm (or the substitution of less harmful means for those that are more harmful). Second, appeal to duty and the minimization of harm effectively offsets the misguided rationale behind complaints dismissing further empirical studies as disingenuous, a waste of time, or a distraction from the serious stem cell work at hand.

In the motivation for further exploration, I would argue that the fundamental motivation for conducting further clinical trials is to fulfill the demands of justice. If one were to ask why “the benefits of morally uncontroversial biomedical research should be available to all” (the motivation cited in the PCOB and BI articles), the basic reason is “because justice demands it.” By professing to promote the good of society through the relief of sickness and the promotion of health, biomedical researchers implicitly acknowledge that, as every human being shares equally in a common human nature and, therefore, experiences the same natural needs for the goods of life and health, so every person is in justice—or by right—entitled to pursue those goods, including pluripotent stem cell derived therapies.

What’s more, applying the first principle of justice, to all equally according to their needs, explains why the PCOB and BI articles were correct in arguing that it is reasonable (i.e., nondiscriminatory) for the research community to generate and test these scientific hypotheses. And, conversely, why it is unreasonable (i.e., discriminatory) for the research community to refuse to participate in this project on putative grounds that doing so is tantamount to being held hostage to the moral protests (“arbitrary views”) of a minority.

When it comes to satisfying the basic need of all human beings for health, it is unjust to require a sizeable segment of society, who may be suffering from degenerative diseases but opposed to ESC-based cures, to either accept these therapies with serious moral reservation or conscientiously decline them altogether. To turn a deaf ear to the requests for the development of morally uncontroversial stem cell therapies, then, would be a violation of the very people whom the research profession is bound to serve by violating their values.* Insensitivity to the reasonable moral concerns of some has the unfortunate consequence of not only eroding the public’s trust in biomedical science, but of despoiling one of its sterling trademarks—disinterested service.

*I would divide the moral objectors to ESCR into two groups: those who do not struggle with degenerative diseases and those who do. Both groups of objectors would be violated on the basis of having their values defaced: the first because they are deprived of a scientific enterprise that serves the common good, and the second because they cannot access morally acceptable stem cell treatments.

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