

through repeated attempts at assisted reproduction for the sake of having a child with a vial of personalized ES cells or for the benefit of helping science and society since their main goal is to have a healthy baby. The BTM is not equivalent to saving cord blood from discarded umbilical cords after delivery of the child as this procedure does not pose any significant risks to either the mother or the child. For all of these reasons, it is unlikely that the BTM will be an attractive reproductive option for parent(s) seeking assisted human reproduction.

HUMAN EMBRYOS AS MERE INSTRUMENTS FOR RESEARCH

The BTM is meant to treat embryos as a means for obtaining ES cells primarily for research, but also as an end in allowing a child to be born. Yet, the amount of physical harm to the embryo by the BTM may be so extensive it leads one to question how the BTM benefits the embryo. If one believes that existence is beneficial, then all reproductive technologies offer individuals that benefit despite the minimal risk posed by the reproductive technology itself. However in some cases, the harm caused by the reproductive technology may be so extensive, as may be the case with intracytoplasmic sperm injection, that the risks outweigh the benefit of existence. The extensive micromanipulation involved in the BTM may severely harm the embryo and thus the risks posed by this technology go beyond what is currently accepted with other reproductive technologies. Given the extent of risk to the embryo, the BTM treats human embryos more as a means for obtaining stem cells than to serve the best interest of the embryo itself. Moreover, people that ascribe a significant moral status to early developing human embryos, including members of many faith communities, would oppose such instrumental use of embryos for research as prescribed in the BTM.

The larger social ramifications of the BTM should also be questioned as this technology permits the extensive micromanipulation of human embryos to isolate ES cells, but under the guise of an assisted reproductive technology that offers little benefit to the embryo. The BTM promotes the idea that techniques valuable for scientific research may be permitted if the technology poses minimal risk to the embryo. As people race to determine novel ways in trying to avoid the destruction of human embryos for research, they move further away from asking the question whether one should use human embryos for ES research. Perhaps a more ethically responsible approach would be for science to redirect its focus on making cells that have similar properties to ES cells, but are not derived from early developing human embryos. ■

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Stem Cells and the Blastocyst Transfer Method: Some Concerns Regarding Autonomy

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1. STEM CELL RESEARCH AND THE MORAL STATUS OF THE EMBRYO

Human embryonic stem cell research continues to be a divisive and controversial issue. At least one of the reasons for this is the method by which it would presumably proceed,

which includes the destruction of a human embryo. Given current scientific techniques, stem cells are harvested from the blastocyst, which consists of an outer sphere of cells (the trophoblastocyst) and an inner cell mass of embryonic stem cells; once the trophoblastocyst is removed, scientists can

retrieve the stem cells. This process obviously requires the destruction of the embryo, and many take this destruction to be morally problematic.

Whether it is or is not depends, of course, on the moral status of the embryo, which is a complicated issue. On the one hand, the embryo lacks many of the features that many of us take to be constitutive of moral status: sentience, autonomy, rationality, and the like. On the other hand, the fetus has at least *something* that many of us take to have moral worth, such as the potential to develop into a person—I mean ‘person’ in the philosophical sense of one who is accorded rights and duties—or, for those who bear animosity to potentiality arguments, a “valuable future” (e.g., Marquis 1989). Certainly the debate over the moral status of the embryo is not going to be resolved in the near future, and is potentially intractable. Any form of stem cell research which destroys embryos will therefore continue to be incendiary and, quite possibly, politically unviable.

If stem cell research is going to achieve widespread acceptance, it might have to proceed in a manner that does not involve the destruction of the embryo. There are several proposals that may or may not satisfy this criterion, which include: parthenogenesis (i.e., the use of diploid oocytes that are not viable embryos), the use of defective embryos, the use of “pseudo-embryos” (i.e., ones that have had certain genes deactivated and therefore are not viable), or extraction of stem cells after “embryo death” (Liao 2005). As Liao argues, it is not clear that any of these techniques will satisfy those who take the embryo to have moral status. In some cases (e.g., parthenogenesis and the harvesting of stem cells after embryo death), these techniques exploit contingent scientific limitations that we might reasonably expect to be overcome in the future; once these limitations are overcome, the embryos would be viable and their destruction potentially morally problematic. In other cases (e.g., the use of defective and “pseudo-” embryos), these techniques seem to exploit “handicaps” in ways that many of us might find morally problematic: just as we might think it is inappropriate to harvest organs from handicapped individuals, we might similarly think that it is inappropriate to destroy handicapped (whether naturally or by design) embryos for their stem cells.

Against this backdrop we might consider another technique: the blastocyst transfer method (BTM). Whatever else its merits, this technique does *not* involve the destruction of the embryo and therefore circumvents whatever objections (and political obstacles) might therein obtain. This procedure works as follows: some number of stem cells are *extracted* from the blastocyst—this number would be low enough to allow the unharmed blastocyst to continue its development, though high enough to allow a stem cell line to develop from the extracted stem cells. There are numerous scientific obstacles for BTM, though none of them seems

insuperable. (For a discussion of these, and of their potential resolutions, see Liao 2005). Putting aside the scientific obstacles, what *moral* objections could be lodged against BTM? Certainly not that it results in the destruction of embryos, which it does not.

2. THE BLASTOCYST TRANSFER METHOD AND AUTONOMY

Even if BTM does not result in the destruction of an embryo, I think that at least one moral problem can be alleged against it, namely that it poses a threat to the autonomy of the embryo. Liao considers and rejects this proposal, though I think that his dismissal is premature. In this section, I wish to sketch the objection, to present his response, and to show why I find it lacking.

Generally, we might say that someone’s autonomy is violated if they are treated in a way to which they would not consent. There are numerous rejoinders and refinements that we might add to this suggestion but, for present purposes, it should suffice. In the case of a fetus, some people might think that considerations regarding autonomy are irrelevant since the fetus lacks autonomy (i.e., the ability to self-legislate). For example, I take it that a Kantian would say something along these lines, holding that, since the fetus lacks rational nature, it also lacks autonomy. However, this is, in my view, the wrong way to look at autonomy. Rather than looking at *actual* consent, I think that the relevant normative construct is *idealized, counterfactual* consent. So, rather than saying that a fetus’s autonomy is not violated because it, at the time, has no autonomy, I think that we should ask a different question. To wit, the question should be something like: would an informed, rational individual consent to some act upon it were it able to do so?

To see the advantage of this conception, consider a standard case: that of an unconscious person who is in need of a life-saving blood transfusion. We cannot get actual consent in this case, but most people think that is irrelevant since we can reasonably assume that our idealized agent would have consented to the procedure.¹ Some people might find a disanalogy between the unconscious person and the fetus since the rationality of the unconscious person is, in some ways, more proximate than that of the fetus, but this strikes me as unconvincing. For example, we might imagine that the consciousness of the unconscious person will be suspended longer than the time from which rationality would develop in the fetus, so the temporal element seems irrelevant. Alternatively, we might say that the disanalogy is in whether rationality has *ever* existed, not whether it

1. There are, of course, some complications when we consider pluralistic conceptions of the good—such as Christian Scientists who would oppose the transfusion—but they need not concern us here.

is currently operative. But I do not see why this would require more than perhaps a mere locution shift. For example, instead of talking about autonomy, we could talk about interests, saying that, even if autonomy is non-existent, there would still be moral peril in violating the interests of the fetus; this can still be a deontological assumption and one that would circumvent the putative objection. Nevertheless, I shall continue to use the word 'autonomy,' following Liao, though I recognize the potential need for refinements in this regard.

Accepting the above points, we could say that BTM would violate the autonomy of the fetus (or the idealized, rational agent whose consent would be morally relevant). The reason is that we might imagine that someone might not consent to being the progenitor of a stem cell line. There are numerous reasons someone might offer in defense of this opposition, the most simple of which would be mere preference. While many philosophers or bioethicists might find such a preference to be morally deficient, at least Humeans would maintain that preferences lie outside the scope of rational scrutiny (and therefore are immune to moral condemnation). More substantially, someone could assert a property right over his/her stem cells and say that BTM violates that property right. Regardless, the point here is not to establish *which* reasons would be given to substantiate the violation of consent, merely that *some* (plausible) reasons could be advanced. If any such reason exists, then we have a potential moral hazard.

Liao seems to agree that autonomy could be violated through BTM, but he thinks that "... in certain circumstances, consent may not be necessary if an action would bring very little or no harm to an individual but would greatly benefit others" (Liao 2005, 11); in defense of this conclusion, he offers some thought experiments. For example, imagine that a small withdrawal of blood from an unconscious individual would save another individual. Given a presumed lack of risk to the unconscious patient, we are supposed to think that the procedure is morally permissible. Furthermore, we can easily identify the parallels between this thought experiment and the potential that BST has to effect good through (putatively) analogous interventions.

But, as should be obvious, this thought experiment does not show that the interventions (either blood transfusions or BTM) fail to violate autonomy, merely that Liao thinks things other than autonomy are morally relevant. Certainly many advocates of stem cell research think that this is true. And certainly consequentialists, ethical pluralists, and ethical particularists think that this is true. But this is all completely irrelevant insofar as the challenge is being proffered by a presumably absolutist deontologist. Rather than responding to the offered challenge, Liao effectively denies the premises of his critic.

Ultimately, I do not think that anyone denies the scientific potential of stem cell research, nor the associative moral good achieved through its positive effects. However, I ultimately disagree with Liao that BTM circumvents the moral hazards of conventional stem cell research. To be sure, BTM does not result in the destruction of an embryo, but it does carry another deontic hazard, namely the potential violation of autonomy. This hazard is obviously present in conventional stem cell research as well, though it continues to exist in BTM. BTM removes the embryo worry, though leaves other deontic concepts on the table. Liao's argument that the fruits of the research effectively outweigh these deontic concepts could just have easily been applied to traditional techniques (albeit there were more deontic concepts to be countervailed), though he has discharged an important hazard by appealing to BTM. In the end, however, an important one remains, and deontologists will likely be unconvinced by his pluralistic approach to ethical theory. ■

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Three Stages in the Lifecycle of Bioethics: Observations on "Bioethics as Co-PI"

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S. Matthew Liao's paper (2005) exemplifies what I characterize as the third stage in the lifecycle of bioethics, "bioethics

as co-PI," in which bioethics asserts a role in directing the biomedical and bioscientific-research enterprise according