

Embryos, Individuals, and Persons: An Argument Against Embryo Creation and Research

CHRISTOPHER TOLLEFSEN

ABSTRACT One strategy for arguing that it should be legally permissible to create human embryos, or to use of spare human embryos, for scientific research purposes involves the claim that such embryos cannot be persons because they are not human individuals while twinning may yet take place. Being a human individual is considered to be by most people a necessary condition for being a human person. I argue first that such an argument against the personhood of embryos must be rationally conclusive if their destruction in public places such as laboratories is to be countenanced. I base this argument on a popular understanding of the role that the notion of privacy plays in abortion law. I then argue that such arguments against personhood are not rationally conclusive. The claim that the early embryos is not a human individual is not nearly as obvious as some assert.

What is the moral status of the human conceptus? It seems to me that this question is still very much of the essence of reproductive ethics. In the past, this was more clearly recognized; most discussion of abortion, the classic difficulty of reproductive ethics, focused on precisely this issue. But as reproductive ethics has developed, there have been attempts to steer it away from this central question.

Two examples of this attempt to overcome the problem of the conceptus come from recent feminist ethics, and from the medical and scientific communities. Concerning the former, Rosemarie Tong has written that feminist bioethics “. . . should center not on the question of whether fetuses are the moral equivalent of adult persons but, rather, on the fact that fertilized eggs develop into infants inside the wombs of women.” [1] Generalized, this approach sees the key to reproductive ethics not in that which is reproduced, but in those who, traditionally and biologically, have been most involved, and perhaps most burdened by reproduction.

Concerning the latter, a prominent strand of thought concerning a host of new reproductive technologies has it that it is merely “political” to let concern for the moral status of the conceptus stand in the way of scientific progress, especially where there is the potential for so many great benefits to medicine [2].

Neither of these approaches seems acceptable to me. The rhetoric of the scientific and medical community to the contrary, neither scientific progress nor medical advances are immune to moral considerations, and the most obvious of these considerations concerns the means by which such progress is gained. Freedom of inquiry is especially considered limited where it runs up against the value and dignity of persons. Thus, it is unacceptable practice to conduct experiments on persons without obtaining their informed consent, for to do so is to violate their autonomy as rational agents [3].

To the extent that this claim is accepted, as it is nearly universally in Western society now, it follows that the question of the moral status of the conceptus *must* be addressed before an informed judgment can be made as to whether, for example, it is legitimate — morally or legally — to experiment upon the embryo for non-therapeutic purposes, or to use deliberately cultivated embryonic tissue for the medical treatment of third parties.

A similar claim may be made with respect to feminist reproductive ethics. Without denying that the procreator is a legitimate and important subject of moral concern, it seems clear that what sorts of concern the procreator is due, and hence what rights and responsibilities the procreator *qua* procreator has, depends upon what the nature of the entity procreated is, for our rights and responsibilities are widely acknowledged to be limited by whether we are acting upon or with other human persons, or upon or with subhuman materials or animals.

So I take it that the first questions, the grounding questions, of reproductive ethics concern the moral status of the conceptus. While this is not to deny the importance of scientific research, medical advancement, or reproductive autonomy, the nature of the conceptus, as an entity immediately affected by scientists, medical researchers, and procreators, will limit or fail to limit what may permissibly be undertaken by these agents.

This is especially the case because many of the most promising new forms of research and technology that involve human embryos also involve the destruction of these embryos. Again, abortion has been the classic case of this; but a host of new forms of embryo research and technology likewise involve destruction of the conceptus. These include, but are not limited to: the use of ‘spare’ embryos from IVF for research purposes; in vitro creation of embryos specifically for research purposes; cloning of embryos, children, or adults in order to perform research upon the early clone, or for the sake of donor tissue and organs, and the creation of hybrid and chimerical embryos for research purposes. Induced twinning and embryo fusion are also worth looking at in this context. It is my view that, despite my normative claims at the beginning of this paper, many bioethicists see themselves as having ‘moved beyond’ the issue of killing and the status of the conceptus, in addressing these issues. By the end of this paper, I hope to leave the impression that these issues are still very much worth pursuing in a philosophical manner. I should also note that most of what I say here should be construed, not as positive arguments that the conceptus has the same moral status as adult persons, but as suggestions that this possibility should not yet be dismissed. This lesser claim, we will see, is all that is necessary for the dialectical success of my argument against embryo creation and research.

This minimal claim is, however, extremely important in this context. For consider the following line of political or legal argument for the permissibility of human embryo creation for research purposes, even though the research will ultimately be destructive. In the US, at any rate, one might suggest that the permissibility of this under law has already been settled by the Supreme Court’s decisions on the matter of abortion. Since it is legally permissible to abort even a third trimester fetus, surely this settles the question of whether it is permissible to create embryos for research purposes and destroy them at a very early stage of their development.

It seems to me, however, that there are very good reasons for a government that permits abortion for the reasons the US does to think twice about this argument. For

the Supreme Court's decision in *Roe v. Wade* held two claims together. The first was that a woman's right to privacy supported the right to abortion if the fetus was not legally a person. The second was that in such a contested issue, it was not the court's place to make a determination as to "when life begins" — that is, to assess the disputed issue of the personhood of the fetus [4].

What follows is a possible reading of (at least some aspects of) this decision, one that coheres with a pervasive popular understanding of the right to abortion. The Court's position is this: because the case is one of upholding a right of individuals to do or not do a certain action in private, a permission granted by the Court does not imply a public decision as to the morality or immorality of that action. The Court is abstinent on this matter. And the Court must be abstinent because of the highly disputed nature of the case. If the case were clear cut one way or the other, the Court could permit, as it permits, for example, the obviously legitimate begetting of children by married couples, or the Court could forbid, as it forbids the obviously illegitimate use of violence against one's born children. In the absence of such clear boundaries, the Court must, because a private good is at stake, permit the course of action [5].

By contrast, on this line of thought, to permit such a serious course of action *outside* the realm of the private, where its morality is deeply contested, would require a much higher standard of evidence than seems possible in this case. For the Court to permit an action which might be gravely wrong in the public sphere requires that it make an actual determination as to the morality of the disputed case, i.e., the Court must judge that the action is not, in fact, gravely wrong. And this, in turn, requires a higher standard of evidence, a more clearly convincing case that the permitted course of action is acceptable. So the default position in a public matter which is highly contested because thought by many to involve a grave wrong to others, is for a course of action to be forbidden, unless the argument for permission is made convincingly [6].

Again, this seems an aspect of the Court's reasoning, and it is a prominent part of contemporary thought about the legal permissibility of abortion, even by those who privately think the practice wrong. But it suggests a line of thought on the matter of creation of and research on, human embryos. For a laboratory seems quite different from the classic locus of privacy, the home, and the research done within a laboratory to be essentially public. Laboratories, and, especially, laboratories that are supported by public funds, thus seem to be public places. Even beyond the issue of public funding, work on embryos in such laboratories is public in at least the following three ways. First, the research embryo is publicly visible; this is a relatively minor consideration, even though visibility plays a rather large role in much discourse about abortion, as in recent discussion of 'partial birth' abortions.

Second, the scientific community as a whole is the ultimate arbiter of the scientific value of all research done on the embryo. Scientific experimentation belongs to the scientific community, for that community to reproduce and verify the experimental results, and to propose and execute advances on the work already done. Scientific research that is "private" by comparison with the rest of the scientific community does not merit the name "science." This is quite different from claims about the privacy of personal choices. Such choices are not under a standing need of ratification from a broader community, as scientific research is.

Third, the public at large is the ultimate beneficiary of all scientific research. The link between science and technology, and especially, for obvious reasons, in reproductive

research, is such that the whole of society is both affected and benefited by research results. Even those who wish to stand aloof from all work done in a particular area of scientific research will find themselves inevitably frustrated in their attempts [7].

We should thus see scientific practice, particularly as it is carried out in laboratories, as public. It is not an arena for private, meaning-defining choices, nor is it without serious consequences for others not engaged in scientific practice directly. Rather, scientific practice is oriented towards the public assessment of public truths, and the public utilization of such truths for the social good.

In consequence, what is permitted in a laboratory, by contrast with what is permitted in the home, seems to require a much more explicit determination than the Court was willing to give in *Roe*. If research is to be permitted on some X, whatever X is, then this would seem to require a public and explicit determination that X is not a person. Mere abstention from the question will not suffice. So, if creation of, research upon, and destruction of human embryos is to be publicly permitted, then a public settling of the question of when human life begins is required, and the standards for such a public settling will have to be fairly high. For it was precisely because the standards did not seem sufficiently met by either side that the Court abstained in *Roe* [8].

This line of thought may cast some light on the history of discussion in the US on the matter of publicly funded embryo creation and research. In 1994, the *Report of the Human Embryo Research Panel* sponsored by the NIH adopted the position that embryos could, and in some cases should be created for research purposes with public funding. But the same Panel felt it necessary to justify this recommendation by a claim about when it was *impossible* for the embryo to be a human being. That is, it did not hold its conclusion to be implied by the right to abortion; indeed, the Panel hoped to avoid the abortion controversy altogether. By establishing that a certain condition necessary for being a human being could not be considered as being met by the early stage embryo, the Panel believed that it had established that the early embryo could not be a person. But in taking this tack, the Panel conceded that it considered the conditions under which embryo creation and research were permissible to be different from the conditions under which abortion was permissible. The abortion case, to reiterate, required only the lack of definitive considerations on either side; the embryo creation and research debate, by contrast, required positive, and indeed, definitive considerations for the non-humanity of the early embryo [9].

I believe that this is a crucial concession, even if it is only implicit in the *Report*. For it requires that considerations put forth by the *Report*, or any other group advocating creation and research of embryos, accept the burden of proof in showing that it is impossible for early stage embryos to be persons. Nor, I think, is it reasonable to think that the standard of proof should be different in cases in which already created but 'spare' embryos are used for research purposes — my claim is that anything done to an embryo in a lab that involves its destruction requires definitive evidence that the embryo is not a person. So, for example, the more recent recommendation by the National Bioethics Advisory Committee that spare embryos may permissibly be culled for stem cells is legitimate only if this high standard of evidence is met.

What then is the decisive ground on which the Panel was able to conclude that it is impossible for the early stage embryo to be a person? It is that a necessary condition for personhood, accepted by all parties to the debate, is that the entity in question be an individual; and that this necessary condition is not met by the embryo prior to

the development of the primitive streak, for prior to this “marker event” twinning is possible.

The decisiveness, in assessing personhood, of the possibility of twinning may or may not seem intuitively obvious. Shortly, however, I shall investigate this argument with a view to showing that it is not as decisive as has been claimed. If the analysis above is correct, this has important consequences for any action as public as creation of and research upon embryos. It may have the additional benefit, in the eyes of some, of ruling out such courses of events, without having an impact upon the abortion debate. But by way of conclusion, I will suggest some reasons for doubting this to be the case.

Until recently, few would have argued against the claim that the early embryo was a human being. The traditional text-book way of talking about the single-celled result of the fertilization of the egg by the sperm was that this event marked the beginning of a human being. If a human being is an individual with membership in a certain species, then any entity may be identified as a human being if it is both an individual living thing, and may be genetically identified as human. Human gametes — sperm and egg cells — and human somatic cells — skin cells, for example — are genetically human, but not individual members of a species type. A fertilized human egg, on the other hand, is genetically continuous with a recognizable future individual, and genetically distinct from its parent individuals, and thus appears to be a human being from the moment of conception.

Many argue, of course, that rights accrue only to persons, and not to humans, even human individuals, as such. Persons, in such arguments, are typically defined as possessing some set of characteristics that are typical of rational agents. On Mary Ann Warren’s view, for instance, persons have at least some of the following five characteristics: consciousness, developed capacity for reasoning, self-motivated activity, capacity to communicate, and self-awareness [10].

Opponents of this sort of view, who hold that personhood begins with conception, have a response to these sorts of claims, of course. For they can agree that persons are rational agents, that rational agents typically manifest Warren’s five characteristics, and that it is because they are rational agents that persons are to be respected. Where there is disagreement, typically, is over whether personhood is best viewed as an achievement, as in Warren’s view, or as conferred, as in, e.g., Carson Strong’s view [11], or as a status, which individuals have in virtue of their *capacity* to achieve rational agency, a capacity identified on the basis of species membership [12]. On this latter view, when something may be identified as an individual member of a species, the individuals of which have a capacity to achieve rational agency, then that individual is a person in virtue of that capacity.

This is precisely the debate that has been so intransigent for the past 30 years, and it is precisely this debate that the consideration of the individuation requirement tries to avoid. For proponents of both positions agree that only individuals can be persons; hence anything that is not an individual, and, where we are dealing with human beings, not an individual human being, cannot be a person.

But the question of whether something can be considered an individual is not an easy one. And, in the case of biological organisms, a combination of biological and metaphysical considerations is in play. What I will suggest is that one perspective on the biological and metaphysical possibilities results in perplexities. But when we take a different perspective on the biology and the metaphysics, we get different answers. In

consequence, we should expect the kind of argumentative stasis characteristic of the abortion debate to remain.

The biological facts that give rise to the perplexities involve the possibility of twinning at the early stages of the embryo. One way to articulate the biological puzzle is this. Take the single-celled zygote. Its first mitotic division can result in twins, genetically identical daughter-cells that will themselves develop into ontologically independent individuals. But this possibility of twinning is rooted in a biological aspect of the zygote that is present even when twinning does not in fact take place, namely, that the daughter cells of the zygote will both be genetically identical and totipotent, i.e., each capable of developing into an individual human organism.

Now apparently, in the case in which twinning does occur, what was a single individual organism, the zygote, in dividing, has generated two distinct individuals. There is not one entity composed of two twins, and many claim that it is unreasonable, because arbitrary, to see one of the twins as the original zygote, only smaller, and the other as a new organism [13]. So we have two individuals, where before there was one. But, so the argument continues, how are the two totipotent genetically identical daughter cells that are the result of the first cell division different in principle in the case in which twinning does not result? Both cells could in fact become twins, and indeed, in the laboratory, it seems possible to separate the cells from the first cleavage, and gain twin embryos in consequence.

This seems to me a species of a larger problem raised by Peter van Inwagen. The difficulty is in seeing how two such distinct things — the cells — could be a single unified organism, rather than merely two adhering individuals. That they were merely adhering becomes especially clear in twinning, but then twinning, it would seem, was possible only because they were merely adhering. In van Inwagen's formulation, the great difficulty is in showing how the event which was the life of the single-celled zygote is the same event that is the life of a later two-celled organism, rather than it being the case that the event that was the life of the earlier organism ceases to be, and two individual organisms, each with their own lives, begin [14].

Moreover, and moving to the more metaphysical end of the spectrum, twinning is possible not just at this early stage, but at later stages as well — so it seems, from the biological cum metaphysical standpoint, difficult to talk of a single developing individual from the two-celled stage on — how can something be a multicellular individual organism when it still has the potential to become more than one individual organism? The more reasonable alternative is rather to hold that there is a collection of individuals — single-celled individuals — which eventually come together to form one individual human organism at some later stage, or, in other cases, split apart to form other individual human beings. This is, in effect, Norman Ford's view [15].

These same facts lead to similar conclusions at the most metaphysical end of the objections concerning persons and individuals. For example, when we have a single-celled zygote, we seem to have an individual with one part, which is identical to itself. Yet after division, if we are to say that the same individual remains, we must explain how it can be possible for an individual with one part identical to itself to persist as the same individual, with two parts, neither of which is identical to the individual's original part. Here, what causes problems is a metaphysical puzzle about the nature of persisting identity of individuals. The puzzle is this: how can an individual persist when none of its parts persists? The difficulty is not present at later stages of the human organism

when some parts persist, and others don't, but at this early stage, there is supposed to be only one part [16].

Finally, another metaphysical problem, concerning the relation between persons and individuals. Jean Porter, responding to a defence of the claim that the zygote is an individual human organism, and hence a person, poses the following objection. Our everyday concept of personal identity does not allow for one person to be potentially two persons. Person-splitting thought-experiments, such as those proposed by Derek Parfit, in which one person gives rise to two exactly similar persons, are used to a destructive purpose where the notion of personhood is concerned. As Porter says, the ordinary conception of a person is not such as to allow one person to split into two. So we should not think of the early zygote and embryo personally, given the biological possibility of splitting [17].

This last difficulty may be easily responded to in such a way as to result in a dilemma. For, one might say, this objection is really out of bounds in the debate as I have structured it. The reason is that Porter's objection relies on the notion of personhood, rather than abstracting from that notion in order neutrally to determine whether a necessary condition for personhood, the individuality of an organism, is met. This is one horn of the dilemma. Of course, Porter, who is not directly concerned with questions of public policy in her article, could respond that in fact the individuality of the zygote cannot be determined independently of the question of personhood — one's view of personhood will have consequences for one's views on the question of individuation. This response is dilemmatic, not necessarily for Porter, but for the anti-individualization strategy where embryo creation and research are concerned. If the response is right, it effectively demolishes the possibility of an easy and conclusive settling of the question of individuation, for the notions of personhood, and indeed, of individuals, are themselves contested metaphysical notions [18]. This is not to deny that there are objective answers to such questions. I think there are such answers, but the debate as I have laid it out requires that these answers be more akin to the hard facts of science, than the metaphysical difficulties of problems of personal identity.

In any event, there is more to be said against the denial of individuation. First, return to the biological difficulty. From a narrow perspective that considers only the possibility of twinning, we might seem forced to a view that there is a collection of biological individuals, rather than a continuing single individual. But a different perspective on the biology seems to yield quite a rather different conclusion. Mark Johnson, for example, has argued that if we focus on those cases in which twinning does not occur, we seem forced to acknowledge that the behaviour of a zygote that eventually develops into what is obviously a human individual organism is remarkably internally unified and purposive. For example, the zygote is self-directing from its single-celled stage:

Under the influence of the zygotic nucleus, which is not merely the container of the genetic program, or 'blueprint' or the organism, but which is also an agent that effects differentiation by directing the production of proteins that cause cleavage, this organism possesses homeostasis, and, because of its immaturity relative to its mature form, immediately sets about the business of producing organs necessary for its survival inside, and eventually outside, of the mother. [19]

Furthermore, the boundaries of the entity in question seem stable, and determined from within the entity's own nature, and are not, as some suggest of the *zona pellucida*, a merely external limit. From the earliest stage, those boundaries resist, in a manner akin to that of individual organisms, difficulties in the external environment, as when the *zona* prevents the blastocyst from implanting in the fallopian tubes. Again, like an individual organism, the early stage cells are in communication with one another via so-called 'gap junctions,' differing in this respect from an aggregate of non-communicating individuals. And finally, when twinning does not occur, there is genetic continuity between one thing — the fertilized egg — and another — the later stage human organism.

These biological facts tell against the hypothesis that the developing human embryo is merely a collection of individuals, a heap, or a virtual object. Van Inwagen's claim that "The space [the two celled embryo] occupies is merely an arena in which two lives, hardly interacting, take place," seems false [20]. And in fact, turning to the metaphysical side, viewing this continuing collection as a single individual permits us to avoid a metaphysical puzzle: how is it that a mere aggregate, forced together only by way of an external influence, should become a single organic individual? There is of course, one easy response, by way of pointing out a parallel: the proponent of early individuality is committed to the possibility of two discrete individuals becoming one, in the case of the sperm and the egg. So the puzzle would seem to be dissolved.

However, simplicity alone would seem to make the union of sperm and egg into an individual organism more plausible than the union of the thousands of cells that Norman Ford thinks precede, as individuals, the formation of the human individual organism. In the case of the sperm and the egg, we can posit a fairly minimal internal telos of each: to unite with the other. That is, as it were, the only, and unifying, purpose of sperm and egg as individuals. No special timing is necessary. Whenever possible, the sperm makes for the egg, and the egg, as determined by the menstrual cycle, waits. But when we turn to a collection of thousands of individuals, the kinds of individual, but widely co-ordinated, purposes that each must have with each other in order to result in a single individual human organism — all the while 'hardly interacting' with one another — seem less plausible than positing an overarching unity characteristic of an individual organism with respect to all of its parts. Moreover, not only are the various cells synchronically co-ordinated with one another, but they are diachronically co-ordinated, with changes in one cell following, in an ordered progression, from changes in another. Norman Ford is forced to posit "that the timing of early differentiation at the blastocyst stage is governed by some 'clock' mechanism inbuilt into the DNA of the chromosomes of each cell of the embryo. It seems to be set from the time of fertilization, with each cell's 'clock' running in dependence on, and in coordination with, what is happening in its surrounding cells." [21] Let us call this the one clock versus many clocks problem. My suggestion is that the one clock hypothesis has the advantage of simplicity, both in terms of the synchronized mechanisms, which are better explained if there is one clock and one programme, and in terms of the telos which *something* must have towards becoming one single human organism. It is easier to attribute these purposes to sperm and egg, rather than to a heap of up to several thousand or so cells [22].

The main puzzles thus resolve themselves. First, as I have pointed out, the question of determining whether the later cells share the same life possessed by the first cell seems answerable on the basis of the biology. Unlike the case of a splitting amoeba, the

two daughter cells are simply not causally isolated from each other in cases where twinning does not occur. The suggestion that they share a life which is passed on to them from the parent cell is not as inconceivable as it is in the case of amoebae, where we would have to eventually posit that all amoebae everywhere constituted some sort of “scattered object”. [23]

We can also see an explanation for the puzzle concerning parts. What creates the difficulty is actually a misunderstanding about single-celled individuals, viz., the thought that such individuals do not have any parts other than themselves. But of course this is false. In the transition from one cell to two, there is continuity of the cellular matter, which undergoes reorganization, with the transition itself being guided by the influence of the zygotic nucleus. We can likewise give an explanation of the division itself: the organism is engaged in the task of its own development into a vastly more complex organism — the organism we think of as the mature human being.

There are two interesting points to be made about the role played, in the single-celled zygote, by the nucleus, a role analogous to that played in the more fully developed individual by the brain. First, as Johnson points out, it is characteristic of highly complex organisms that at the beginning of their lives, the organism’s differentiation be minimal. “Hence, it is to be expected that the organ of central control will also undergo gradual differentiation and unification before its maturity is reached, a maturity that is proportionate to the maturity of the differentiated organism.” [24] In short, we need not wait for a recognizable brain before considering the developing being to be a *human* being: rather we need only determine that something in the developing organism plays an analogous controlling function to the brain, including controlling self-development to the point at which the organism possesses a brain.

The second interesting point in this regard follows from the claim that the cells of the two-celled organism are, *pace* van Inwagen, in communication with each another. For, in fact, at this stage, the nuclei of *both* cells, as A. A. Howsepian points out, “appear to give critical direction to this cell pair — direction which governs each individual cell’s metabolic and developmental activity as well as the short-range inter-cellular activity of these cells.” [25] Should it disturb us that the task initially performed by one nucleus is now performed by two? Has the unity of the individual been somehow compromised? I think the answer to this question can be ‘yes’ only for those who are willing to affirm the same about mature human beings, given the natural hemispheric division in the mature human brain, a division overcome by a variety of communicative paths [26].

Finally, we are left with the Porter puzzle — we don’t think later persons can be divided. But don’t we? Recent work on cloning suggests that any given somatic cell has, in fact, a kind of twinning potential. Granted, it is a passive potential. But so, for all we now know about twinning, is *that* a passive potential. All of what we know about twinning through lab experimentation, and much of what we know about it through other sources, suggests that the surrounding environment plays a considerable role in the detachment of cells that leads to twinning [27]. My suggestion here would be (a) that here the biology has to determine what metaphysical weight the concept of person must bear; and (b) the weight is not very heavy when we recognize how much of a role extraneous intervention plays.

Similar considerations surround a natural view of human reproduction which until recently would have been well grounded: surely our concept of persons requires that

they be the result of the union of male and female gametes brought about by the reproductive act. It would be natural to think that persons were not the sort of things that could be made in the laboratory. Yet, as in vitro fertilization has shown, this is false.

All this, of course, is a long way from showing, beyond a shadow of a doubt, that the single stage zygote is an individual human being [28]. But that was not quite the point of the exercise. Rather, it was to show that it is not an unquestionable *fact* of 'hard' science that the early stage embryo is *not* an individual. The biology looks different from different perspectives; and the metaphysics is not neutral or problem-free. So the conclusion concerning public policy that I would draw from my dialectical argument concerning embryo research and creation is that it is illegitimate. The case is not clear enough that the law can allow acts destructive of human embryos to take place in the public sphere.

To conclude, I want to make three points. First, I think that if I have shown that there is a genuine argumentative stasis, this should lead to a moral conclusion, in addition to the legal conclusion I have already drawn, namely, that it is simply wrong to create and perform research upon embryos. To destroy embryos one acknowledges *might* be persons, even if one also thinks they might not be persons, is to be willing to kill persons. And it is, I think, impermissible to will what it is impermissible to do.

The second point is to address an objection regarding spare embryos. Spare embryos, simply put, are a problem. There are lots of them, they are doing no good, and it seems one way or another their inevitable fate that they die without coming to term. If they are going to die anyway, why should their deaths not do some good? And indeed, won't we end up killing them one way or another?

The best I can do in reply to this objection is to suggest a way in which spare embryos might best, and with the most possible dignity, meet their fate. Whether the sorts of practices that result in spare embryos are legitimate is beyond the scope of this paper. How, then, should we look upon such embryos?

Given that these embryos are mostly being cryogenically preserved, and that they will die if removed from cold-storage and not implanted, I suggest we view them in a way parallel to those who are in need of an organ transplant which they are unlikely to get, but who are presently receiving extraordinary life preserving treatment. If they had the organ, they would survive, but they won't get it, and their treatment is extraordinary — it offers no hope of improved prognosis, and it keeps them alive at great cost, of various sorts. In these circumstances, it is not killing to remove the extraordinary treatment, where the intention is not to kill, but to mitigate the sorts of costs being incurred. Similarly, I think that, if efforts to find donor wombs, so to speak, for homeless embryos has failed, that they should be removed from the cryogenic life support, not with the intention of killing, but with a view to mitigating the costs, for the embryos, and for society, incurred by their preservation [29].

Many people will be unsatisfied with this. Arthur Caplan, for example, has suggested that "even if you believe that an embryo is a person, however, and should not be used in any research that would cause its destruction, you still must consider the promise that the therapies from embryonic stem cells hold for those who are paralyzed, burned, dying of liver and pancreas failure, brain injured and suffering from many, many other diseases and injuries. Their moral interests count, too." [30] But for that matter, think of all the good we could attain through experimental research conducted on the

elderly, or dying infants and children. Contrary to an influential strand of utilitarian thought, I deny that the destruction of some persons should be brought about for the benefits of other persons. But I cannot defend this view here.

My final point brings us back to abortion, which, to repeat, there is a strong temptation to distance from the issue of creation of and research upon embryos. And my account might seem to foster such distance, although in a different sort of way from that pursued by the Human Embryo Research Panel. For someone who accepted the private/public distinction as outlined above might support abortion rights but find it still possible to avoid the conclusion that embryo research should be permitted. Given that, in the US, at any rate, a consistently large number of the supporters of legal abortion nonetheless think that abortion is morally wrong, and morally tantamount to murder, the category of those who support abortion rights but oppose embryo research might be quite large.

I would question whether things are so neat. Specifically, I would question whether any issue that potentially involves killing can really be a private issue. Eating, for example, while perhaps not as private or important (but only perhaps) as reproduction, still is private and important. Suppose we found a species of mammal, the members of which might plausibly be considered persons. But suppose it is not an open and shut case. These animals might be just on the cusp of rationality, with only the beginnings of a primitive culture. It is surely not open to the government of any nation to make the eating of such animals a private matter. Killing is an act that seems to disrupt the order of community which is natural to personal beings. It is thus public in an important way. If so, the standards which must be met to permit killing must be pretty high — where there is reasonable doubt, where there is room for reasonable persons to disagree, the default position, it seems to me, should not be permissive.

But I would stress that this is not because I harbour a vision of some restrictive or totalitarian government with vast control over our reproductive and culinary practices. Rather, it is because I have a vision of the law, and the state, as institutions which, rather than encouraging radical individualism and private solipsism, should, in Cathleen Kaveny's words, strive to "give the virtue of solidarity the best chance of taking root and flourishing in the hearts of our neighbors and our own hearts." [31] So I take it that my views on embryo creation and research are not best described as conservative, or restrictive, but as liberal and humanistic [32].

Christopher Tollefsen, Department of Philosophy, University of South Carolina, Columbia, SC 29208, USA.

NOTES

- [1] R. M. TONG (1997) *Feminist Approaches to Bioethics* (Boulder, Westview Press), p. 129.
- [2] M. MAYNARD-MOODY (1995) *The Dilemma of the Fetus* (New York, St. Martin's Press).
- [3] A. DONAGAN (1977) Informed consent in therapy and experimentation, *The Journal of Medicine and Philosophy* 2, pp. 307–29.
- [4] *Roe v. Wade*, reprinted (abridged) in R. L. PERKINS (ed.) (1974) *Abortion: Pro and con* (Cambridge, MA, Schenkman), pp. 211–227. The relevant sections are VII–X. The reading here is held together by the following four quotations in *Roe*: (1) "The detriment that the State would impose upon the pregnant woman by denying this choice altogether is apparent" (Perkins, p. 216.) (2) "The privacy right . . . cannot be considered to be absolute" (Perkins, p. 217.) (3) "If this suggestion of personhood is established, the

appellant's case, of course, collapses, for the fetus' right to life is then guaranteed specifically by the [Fourteenth] Amendment" (Perkins, p. 219.) (4) "We need not resolve the difficult question of when life begins. When those trained in the respective disciplines of medicine, philosophy, and theology are unable to arrive at any consensus, the judiciary, at this point in the development of man's knowledge, is not in a position to speculate as to the answer. It should be sufficient to note briefly the wide divergence of thinking on this most sensitive and difficult question" (Perkins, p. 220.) As will emerge at the end of the paper, I do not think this is a good law; however, I am, in this paper, arguing dialectically, from premises I believe might be accepted by those who disagree with me about the worth of the ruling.

- [5] The language of "abstinence" is taken from Joseph Raz. See JOSEPH RAZ (1990) Facing diversity: the case of epistemic abstinence, *Philosophy and Public Affairs* 19. Note that I have simplified matters in the text by speaking of the Court's "permitting and forbidding," since courts perform these judicial acts primarily with regard to prior legislative acts. So the Court "permits" if it permits a permission, or forbids a forbidding; and "forbids" if it permits a forbidding, or forbids a permission. *Mutatis Mutandis*, the argument could be framed in terms of acceptable and unacceptable legislation.
- [6] Here is a possible analogy: the Court ought reasonably to uphold laws forbidding homosexual adoptions — a public matter — unless and until clear evidence was presented that this would involve no grave wrongs against the children involved. These wrongs would include those that could only be defined by an assessment of the moral status of homosexual relationships, and the nature of the family. So the Court would have to rule that moral objections to homosexual parenting were unreasonable, in order to permit homosexual adoptions. By contrast, as it would be highly invasive to forbid the cohabitation of homosexuals with children who were, say, born of earlier heterosexual relationships, the Court might reasonably overturn legislation forbidding such cohabitation without necessarily making a moral determination about homosexual relationships or parenting.
- [7] For the importance in a liberal society of the ability to stand aloof from activities one regards as immoral, see G. GRISEZ and J. BOYLE (1979) *Life and Death with Liberty and Justice: A contribution to the euthanasia debate* (Notre Dame, University of Notre Dame Press).
- [8] Two qualifications must be mentioned. First, I am holding that this argument should follow normatively from a widespread view about abstinence and privacy associated with the abortion ruling for all cases of embryo research; as a matter of fact, these sorts of concerns seem only to have taken root when the question of public funding is at issue. At present, embryo research in 'private' is highly underregulated. So I conclude that unless the higher standard of evidence is met, there should be more regulation. Second, the argument might seem to rest too narrowly on the peculiarities of American law to be of wide application. However, the view that holds that a woman's right to abortion is a specifically woman's right already, it seems to me, situates the issue within the sphere of the private; and the emphasis on personal or private reproductive choice implies the claim that there is insufficient evidence concerning the humanity of the fetus for a public determination to be made — it is held to be up to the woman to make the determination. In conditions of intractable disagreement of the sort surrounding the question of the fetus, the right to privacy is held to trump the only possible right of the fetus. The argument is applicable both to American societal mores, and to the Western world in general.
- [9] HUMAN EMBRYO RESEARCH PANEL, National Institutes of Health (1994) *Report of the Human Embryo Research Panel* (Bethesda, MD, National Institutes of Health). See the essays by C. TAUER (1997) Embryo research: the challenge for public policy. *The Journal of Medicine and Philosophy* 22, pp. 423–439; and P. KING (1997) Embryo research and public policy: A philosopher's appraisal, *The Journal of Medicine and Philosophy* 22, pp. 441–455, both of whom were members of the panel; and G. KHUSHF (1997) Embryo research: the ethical geography of the debate, *The Journal of Medicine and Philosophy* 22, pp. 495–519. My argument owes much to Khushf's article, and to discussions with him.
- [10] M. A. WARREN (1984) On the moral and legal status of abortion, in J. FEINBERG (ed.) *The Problem of Abortion*, (Belmont, AC, Wadsworth).
- [11] C. STRONG (1997) *Ethics in Reproductive and Perinatal Medicine* (New Haven, CT, Yale University Press).
- [12] P. LEE (1996) *Abortion and Unborn Human Life* (Washington, D. C., Georgetown University Press).
- [13] E.g. G. E. M. ANSCOMBE (1984) Were you a zygote? *Philosophy* 18 (supplement).
- [14] P. VAN INWAGEN (1990) *Material Beings* (Ithaca, Cornell University Press), pp. 151–154.
- [15] N. FORD (1988) *When Did I Begin?* (New York, Cambridge University Press).
- [16] This puzzle was suggested to me by Andrew Cortens.
- [17] J. PORTER (1995) Individuality, personal identity, and the moral status of the pre-embryo: a response to Mark Johnson, *Theological Studies* 56.

- [18] See Khushf's essay, *op. cit.*, for this form of argument against the anti-individuation strategy.
- [19] M. JOHNSON (1995) Delayed hominization: reflections on some recent Catholic claims for delayed hominization, *Theological Studies* 56.
- [20] Van Inwagen, *op. cit.*, p. 153.
- [21] Ford, *op. cit.*, p. 155.
- [22] Johnson also argues that the proponents of delayed hominization are committed to viewing the early embryo as a mere heap. *Op. cit.*, p. 761.
- [23] As van Inwagen points out, *op. cit.*, p. 150.
- [24] Johnson, *op. cit.*, p. 751.
- [25] A. A. HOWSEPIAN (1992) Who or what are we? *Review of Metaphysics* 45, p. 490.
- [26] T. NAGEL (1979) Brain bisection and the unity of consciousness, in *Mortal Questions* (Cambridge, Cambridge University Press).
- [27] See the evidence cited by Johnson, *op. cit.*, pp. 758–60.
- [28] The works cited above by Johnson and Lee do much more in the way of supporting this claim.
- [29] It is worth pointing out that there is probably a strong obligation to seek out such donor wombs, an obligation that accrues in the first place to the biological parents of the embryo, and possibly in the second place to those in charge of the IVF clinics. However, I take it the problem remains, given the large number of "abandoned" embryos for which donor wombs do not seem available.
- [30] A. CAPLAN (1998) Stem cell therapy raises ethical issues: should human embryos be used for research, therapy? MSNBC Nov. 5, 1998, <http://msnbc.com/news/212154.asp?cp1=1>
- [31] M. C. KAVENY (1999) Jurisprudence and genetics, *Theological Studies* 60, p. 147.
- [32] I would like to thank the following: Alfred Nordmann and the University of South Carolina Science Studies Group; David Benatar, and the University of Cape Town Bioethics Symposium; Andrew Cortens, A. A. Howsepian, and Ed Munn, for helpful comments and criticisms; George Khushf for pointing me in the right directions; and Stephen Clark.