

Newcastle University e-prints

Date deposited: 14th April 2010

Version of file: Author final

Peer Review Status: Peer Reviewed

Citation for published item:

Deckers J. [Why two arguments from probability fail and one argument from Thomson's analogy of the violinist succeeds in justifying embryo destruction in some situations](#). *Journal of Medical Ethics* 2007,33 3 160-164.

Further information on publisher website:

<http://group.bmj.com/>

Publishers copyright statement:

This article was originally published by the BMJ group, 2007.

Always use the definitive version when citing.

Use Policy:

The full-text may be used and/or reproduced and given to third parties in any format or medium, without prior permission or charge, for personal research or study, educational, or not for profit purposes provided that:

- A full bibliographic reference is made to the original source
- A link is made to the metadata record in Newcastle E-prints
- The full text is not changed in any way.

The full-text must not be sold in any format or medium without the formal permission of the copyright holders.

**Robinson Library, University of Newcastle upon Tyne, Newcastle upon Tyne.
NE1 7RU. Tel. 0191 222 6000**

**Why Two Arguments from Probability Fail and One Argument from
Thomson's Violinist Succeeds in Justifying Embryo Destruction in Some
Situations**

This is the author's version of the paper published in:

Journal of Medical Ethics 2007 (33) 160-164.

doi: 10.1136/jme.2005.014167

Available at: <http://jme.bmj.com/content/33/3/160.full.pdf?sid=0f647648-2000-4d9c-ab7d-249bce2493f1>

Jan Deckers

Institute of Health and Society

The Medical School

University of Newcastle

NE2 4HH

Newcastle-upon-Tyne

UK

tel. 0044 1912227394

email: jan.deckers@ncl.ac.uk

Abstract. The Human Fertilisation and Embryology (Research Purposes) Regulations 2001 expanded the scope of embryo research in the UK. The documents produced by the advisory bodies involved with the preparation and review of these Regulations, namely the Chief Medical Officer's Expert Group and the House of Lords' Select Committee, present various arguments in support of embryo research. The first part of this paper scrutinizes the

proposed argument from probability. This first argument from probability is summarised as the view that early embryos are like lottery tickets. Like lottery tickets that have relatively little value before the draw because of the low probability of being the winning ticket, the value of early embryos would be relatively low because of the presumed low probability that they mature into more developed embryos. I argue that the argument is flawed. The second part of this paper examines these advisory bodies' contention that the claim that embryo destruction can be the lesser evil is incompatible with the view that embryos have full moral status. Julian Savulescu has challenged this position by arguing that early embryos should be entered into a lottery in which they are subjected to the probability of being destroyed. While I challenge this second argument from probability, I argue that Savulescu is right that the claim that the embryo has full moral status is not incompatible with qualified support for embryo destruction, and that a revised version of Judith Thomson's argument from the famous violinist justifies this conclusion.

INTRODUCTION

In January 2001, the UK heralded a new era for embryo research by passing the Human Fertilisation and Embryology (Research Purposes) Regulations 2001, adding new purposes of embryo research to those allowed under the Human Fertilisation and Embryology Act 1990.[1] [2] Thus, it became the first State to approve of embryonic stem cell research, including 'therapeutic

cloning’, or the creation of embryos by somatic cell nuclear transfer for research purposes aimed at finding therapies. This legal change revived controversy over the status of the embryo.

Two advisory bodies have been closely involved with the UK legal change, namely the Chief Medical Officer’s Expert Group (charged by the UK Government with assessing the anticipated benefits, risks, and alternatives of new areas of research using embryos) and the House of Lords’ Select Committee (appointed to consider and report on the issues connected with stem cell research and human cloning arising from the new regulations). Their reports offer a number of arguments in support of the claim that early embryos lack the equal, full moral status – henceforth, simply referred to as ‘moral status’ – that many people consider should be granted to all born human beings.[3] [4] [5] In the first part of this paper I address the argument that this follows from the position which can be summarised as follows: early embryos are like lottery tickets (the first argument from probability). I question the validity of this argument. In the second part of this paper I examine if these advisory bodies are right to suggest that the view that the embryo has moral status is incompatible with embryo destruction. This claim has been contested by Julian Savulescu, who argues that, even if the assumption is made that early embryos have moral status, they should nevertheless be entered into a lottery in which some are selected randomly to be sacrificed for the benefits of others.[6] Each embryo would have a probability of being sacrificed for research purposes. I challenge this second argument from probability, and then

examine Judith Thomson's analogy of the famous violinist, developed in the context of a discussion of abortion.[7] I argue that a revised version of Thomson's analogy undermines the claim that a position of limited support for embryo destruction is incompatible with the view that the embryo has moral status.

ARE EARLY EMBRYOS LIKE LOTTERY TICKETS (THE FIRST ARGUMENT FROM PROBABILITY)?

Like lottery tickets that only have a small probability of becoming valuable after the draw, the relatively low value of early embryos is sometimes perceived as being determined by the view that the probability that they will survive beyond a certain critical stage or stages, for example successful implantation or gastrulation, is small.

Even though an explicit account of this argument from probability is absent from the Chief Medical Officer's Expert Group Report, this argument may underlie the claim that the early embryo is 'a potential human being'.^[8] While the Committee's reasoning underlying this claim is by no means clear, it is clear that the Committee's aim is to reject the view that the early embryo is a human being with moral status, rather than that the early embryo is a human being, as the Committee recognises that the early embryo is a 'developing human life'.^[9] A plausible interpretation for why this claim is made is that the relatively high death rate of early embryos counts against

assigning moral status to them. While the Committee may adopt a ‘middle ground’ position or the view that ‘the respect due to the embryo increases as it develops’ at least partly because of the view that the embryo obtains more valued properties throughout his or her development, or actualises more potentialities, my focus here is on an alternative or additional interpretation of this text: the suggestion that what increases the embryo’s value is the sheer fact of the embryo overcoming more developmental hurdles towards reaching the valued end state of birth, that is, the rising probability of a successful outcome.[10] [11] The same view may underlie the House of Lords’ Select Committee’s contention that the following information is ‘consistent with’ its ‘gradualist view’ (the view that the embryo’s value increases gradually): ‘Although would-be parents may feel sad at the natural loss of early embryos before implantation, there is no public mourning ritual associated with it, nor is there for the loss of surplus embryos left over from IVF treatment’.[12] In one of the preceding paragraphs, this natural loss rate is estimated to be ‘as high as 75 per cent’.[13] My focus here is not on whether the absence of a public mourning ritual is relevant for determining the embryo’s value, but on whether the view that there is a high probability that early embryos may decay naturally, if true, justifies the view that they lack moral status or the view that the ‘natural loss’ of embryos is morally equivalent with the ‘loss’ of embryos through intentional destruction.[14] A positive answer to this question is suggested by the text quoted here, and was also given in a public lecture by Richard Harries, the Committee’s Chairman.[15]

One problem with this argument is that it aggregates the survival odds of each individual embryo. If it is the case that 75 percent of early embryos die before birth, this still does not establish that every early embryo has only a 25 percent chance of surviving. Some early embryos may have only a 2 percent chance, and others a 90 percent chance. If the argument from probability is valid, these advisory groups should argue that some early embryos (those with a 90 percent chance) are more valuable than others (those with a smaller chance of surviving), rather than that all early embryos lack moral status because of their averaged survival chance. But should we really assign a different value to some early embryos simply because they have a smaller chance of surviving up to a certain stage compared to other early embryos? By analogy, one could argue that this justifies assigning a lower value to a child that is unlikely to live for more than five years compared to a child that has a high chance of reaching adulthood. Most, if not all people would find this unacceptable, holding instead that they have equal value (without implying, however, that they must also be treated in the same way). What is equally problematic, is the view that all early embryos have a lower value compared to some more developed humans simply because of the view that early embryos are more likely to die soon. The following analogies show that the argument is flawed. In some places, the mortality rate of children is high, yet it does not justify killing them. The probability that I die tomorrow may be high, yet I suspect (and hope) the reader agrees that this does not give you a licence to kill me. If the fact that I may die tomorrow does not justify you killing me

today, then it is not clear why the killing of embryos should be allowed simply because they may die before, for example, implanting or being born. One could counter that, for example, in the context of embryo selection following IVF, the word 'killing' does not apply as - in the words of Walton of Detchant (the person who proposed to the UK Government to set up the aforementioned Select Committee) - 'those carrying abnormal genes will simply be allowed to degenerate naturally, as indeed many do during the process of normal conception'.^[16] ^[17]. A similar aim may underlie the House of Lord's Committee's choice of words where it uses the words 'the loss of surplus embryos' in the context of writing about the lack of 'public mourning ritual' related to the 'natural loss of early embryos'.^[18] The aim is to present the intentional destruction of early embryos as a natural event (i.e. an event not caused by human agency), presumably because there is an implicit understanding that the words 'natural loss' sound more acceptable than the word 'destruction' or 'killing'. The conceptual shift from 'killing' to 'loss' or 'natural degeneration' is fuelled by the view that many early embryos die naturally anyway. The problem with this way of reasoning is that we all die naturally, yet that it does not justify killing. Therefore, it is not clear why the 'loss' of IVF embryos resulting from deliberate destruction should be morally equivalent with the 'natural loss' of embryos during pregnancy. If Walton of Detchant's reasoning is valid, the implication is that, when nutrients and an environment conducive for the maintenance of life are withheld from any newborn child with 'abnormal genes', this could also be called allowing them

‘to degenerate naturally’. While I do not dispute that sometimes it may be right to withhold or withdraw treatment for the benefit of the child, withholding care simply because the child may die soon because of its ‘abnormal genes’ is unacceptable. Apart from the fact that the problematic nature of the concept ‘abnormal genes’ is ignored, the argument that humans with abnormal genes are less valuable compared to humans with normal genes simply because of their reduced chances of surviving beyond a certain stage is flawed. Compare the following scenarios. If the assumptions are made that a child with Down’s Syndrome has abnormal genes, and that I had such a child, I might be justified in allowing my child to degenerate once he is terminally ill and his systems begin to fail beyond the hope of recovery. However, if I choose to allow my healthy child with Down’s Syndrome to degenerate by denying him access to food through locking him out of the kitchen, the word ‘killing’ is more appropriate than the words ‘allowing to degenerate’, and killing under these circumstances is clearly not justified. No argument is presented for why ‘allowing’ embryos ‘to degenerate’ should have more in common with the former than with the latter scenario.[19]

To sum up: I have established that the first argument from probability fails as the claim, if true, that there is a high probability that early embryos will not survive to become more developed embryos or fetuses does not justify the conclusion that they lack moral status. While lottery tickets only have a probability of becoming valuable before the draw, there is no reason why the sheer probability that early embryos may not survive beyond a certain point

should affect their value. I conclude that killing early embryos is not justifiable on the basis of the view that early embryos may only have a low probability of surviving to become more developed embryos.

SHOULD EARLY EMBRYOS BE ENTERED INTO A LOTTERY ANYWAY (THE SECOND ARGUMENT FROM PROBABILITY)?

The Chief Medical Officer's Expert Group has claimed that the position of those who support the view that the early embryo has 'full human status' is necessarily incompatible with support for embryo research.[20] Similarly, the House of Lords' Select Committee writes that 'it is true that if an embryo had full human rights it would be inconsistent to do anything that had the effect of destroying it'.[21] The remainder of this paper will address the question if this position can be maintained. Julian Savulescu has contested this view by arguing that even if the assumption is made that the early embryo has moral status, this does not imply that killing early embryos can never be justified.[22] The negative value of killing such embryos might be outweighed by positive values which cannot be obtained without killing. The need for such a trade-off is also implicit in the Human Fertilisation and Embryology (Research Purposes) Regulations 2001 which stipulate that embryo research may be permitted for 'developing treatments for serious disease'.[23] For research to be justified, the negative value of embryo destruction must be outweighed by the positive value of research. The relative importance of

research is correlated positively with the seriousness of the disease. Every research proposal must be assessed and expected to be the lesser evil compared to not carrying out the research project. Incidentally, this ‘balancing approach’ had already been endorsed by the Chief Medical Officer’s Expert Group and the House of Lords’ Select Committee, for example where the former expresses its support for embryo research if it ‘has the potential to lead to significant health benefits for others’ and if the use of embryos is ‘necessary to realise those benefits’.[24] [25] While both advisory groups agree that embryo destruction could simply be the lesser evil, the necessary price to pay for reaping the research benefits, they also claim that such a position is incompatible with attributing moral status to the embryo.

Savulescu provides an interesting challenge to this position as he provides an elaborate account of how such a balancing approach could justify embryo destruction even if the assumption is made that the embryo has moral status. According to Savulescu, it could be ethical for embryos to be entered into what he calls the ‘Embryonic Stem Cell Lottery’. In this second argument from probability, the situation is as follows: if the overall chance of living for each of the embryos is increased in a world in which embryonic stem cell research is allowed, early embryos should be entered into a lottery in which there is a small probability of their being sacrificed for stem cell research. This view arises from his conviction that ‘it is not wrong to deliberately create embryos for research if that embryo is part of a larger class of embryos, and the benefits to that class of killing some outweigh the harms’.[26] Savulescu

puts forward a number of thought experiments to support this view. The most sophisticated one is the following. He imagines the explosion of a nuclear reactor, leaving his one year old child exposed to nuclear fall out. Numerous children develop leukemia, including his own. Bone marrow can now be generated most successfully by reprogramming brain cells, which are more resistant to radiation damage than bone marrow. Unfortunately, a whole brain must be destroyed. The extracted stem cells could be reprogrammed to treat ten children. Savulescu would enter his child with other children in a lottery to decide who should be killed to provide stem cells for others.[27] While a one in eleven chance of certain death seems preferable to a (presumably) one hundred percent chance of imminent death, the reason why the latter must be preferred relates to the fact that the former scenario involves intentional killing, which is unacceptable in these (as in most) circumstances. Savulescu disagrees, arguing that 'it is ES cell research, like organ transplantation, that is respectful of human dignity in its reverence for the lives of the living'.[28] Savulescu's reference to organ transplantation prompts me into making the following analogy. If the prospects for recipients of organ transplantations were such that, on average, they could live twenty years longer with the transplant than they would do without, Savulescu's reasoning forces us into concluding that we should all enter into an 'Organ Donor Lottery' in which some of us would be sacrificed for organ donation (given the shortage of donor organs in many countries) with the understanding that organs will be available for all of us (except for those sacrificed) in case we should need

them in the future. After all, the net balance in terms of aggregate life years gained would be positive as at least seven organs per person sacrificed could be transplanted, leading to a total increase of life expectancy for those who are not sacrificed of one hundred and forty years. In this way, a great number of people who are dying now because of a shortage of organs could be saved. The problem is that I suspect very few of us would be willing to enter into such a lottery, holding instead that our lives should not be sacrificed for achieving the benefits of such a utilitarian calculus.

I conclude that, if we cannot even voluntarily accept the probability of being sacrificed for others (for example, by entering into an ‘Organ Donor Lottery’), in spite of an overall increase in life expectancy, it is not coherent to subject children or embryos to the probability of being killed for others simply because their probabilities of survival would be compromised in a world wherein no children or embryos are being killed for the benefits of others. The question of whether or not a being has moral status or is a suitable candidate for destruction should not depend on that being’s relative chances of survival beyond a certain stage.

ARE EARLY EMBRYOS IN SITUATIONS LIKE THOMSON’S VIOLINIST (THE ARGUMENT FROM THOMSON’S VIOLINIST)?

Should we therefore conclude that the view that embryos have moral status is incompatible with support for some forms of embryo destruction? In a

different way from Savulescu's, Judith Thomson has contested this view.[29]

In the context of discussing abortion, Thomson developed the following analogy, to argue her case that some forms of killing are justifiable. She asks us to imagine waking up in a hospital and discovering tubes going from our bodies to the body of an unconscious person, a famous violinist, suffering from a potentially fatal kidney disease. We are told that we are the only individuals with the correct blood type and that we were kidnapped for this reason, so that our circulatory system could then be connected to that of the diseased person. In this way, our kidneys could clean the violinist's blood. We are also told that the diseased person will die unless we remain connected for nine months. As Thomson believes that, in spite of the negative consequences that this may have, we are nevertheless entitled to disconnect ourselves, one could argue that pregnant women therefore also have, in some situations, the right to kill.[30] Thomson did not claim that all embryos are in situations like her violinist's, but that some are. She suggested the need for a dividing line between circumstances when killing is acceptable and circumstances when it is not. She first considers embryos posing a threat to the mother's life, which is compared with the scenario when the kidnapped person would die because of the strain on his kidneys. Thomson argues that killing is acceptable in these circumstances, but also in cases of contraceptive failure when 'all reasonable precautions against having a child' have been taken and when 'assuming responsibility for it would require large sacrifices'.[31]

Thomson is right that killing embryos should be acceptable in situations when the continuation of pregnancy poses a serious risk to the life of the pregnant woman. The reason why this must be allowed is illustrated by the following analogy. We do not compel parents of children who need a kidney transplant to have a reasonable chance of avoiding imminent death to donate a kidney, even if they are a good tissue match, and even if the risk for the parents involved may be relatively small compared to the risk of continuing with an ectopic pregnancy. Therefore, it is not reasonable to expect mothers to bear the risks associated with situations like ectopic pregnancies. However, if we start from Thomson's premise that embryos have moral status, she is wrong to suggest that the need to make 'large sacrifices' after contraceptive failure is a sufficient reason for embryo destruction. The reason why her 'argument from the lesser evil because of the need to make large sacrifices after failed contraception' is unacceptable, relates to the following disanalogies which are overlooked by Thomson. Firstly, while the person whose body is plugged into the violinist's body has not been able to consent to being connected, a plausible view is that not all women who have sexual intercourse are coerced into having it. Secondly, while the kidnapped person's consent to go to sleep did not include the consent to be kidnapped, many people who consent to sexual intercourse, even when it is not aimed at procreation, also consent to the possibility of conception. Indeed, a plausible view is that many people know that even the best contraceptives can fail. These disanalogies are morally relevant. Consider the following scenario.

Imagine that I became pregnant after consenting to intercourse not aimed at procreation, following contraceptive failure. My pregnancy were smooth and I did not experience the need to make 'large sacrifices'. However, upon birth I would find my child to be severely handicapped. I might now want to kill my child because both I and others would have to make 'large sacrifices' to care for my child, for a period much longer than nine months. While nothing in Thomson's argument would prevent me from doing so, I doubt if Thomson would find the killing of my child (presuming that it is not in his best interests) acceptable. If embryos have moral status, killing embryos is not acceptable for this reason either.

For women who are coerced into intercourse, however, Thomson's analogy is relevant. Their situation is sufficiently similar to the situation of someone who has been kidnapped and plugged into the body of her violinist. Moreover, supporting the existence of embryos thus conceived may prolong significantly the trauma caused by the immoral sexual act. Even if the assumption is made that embryos have moral status, their destruction is justified in such situations.[32] Francis Beckwith, however, has objected to this argument. He argues that, if raped women are allowed to abort, one must also allow sperm donors - whose sperm had been stolen and inseminated into women - to kill any resulting children, if they are forced to pay a large sum of money for child support by an unjust court.[33] Therefore, in his view, both abortion after rape and the killing of children in the 'unjust court' scenario should not be permitted. Beckwith's analogy is flawed. The objection is that

unjust financial burdens do not carry the same weight as allowing and supporting the forced physical presence of an unborn human being. If Beckwith's analogy with abortion after rape were valid, it would allow anyone with financial difficulties resulting from injustice, not just sperm donors, to kill their children if it were financially beneficial. However serious financial injustice is, the taking of a life cannot be the right way to resolve such situations. By contrast, taking the life of an embryo conceived after rape must be allowed as, like the kidnappers in Thomson's scenario, rapists do not have the right to subject their victims to the possibility of being coerced into supporting the existence of a human being with their own body. To sum up, most embryos are not in situations like Thomson's violinist's, yet some are, and the killing of these embryos – even if the assumption is made that they have moral status – may be the lesser evil when the women who carry them have been coerced into having intercourse, or are at serious risk of losing their lives by continuing with the pregnancy.

I now address the question if these advisory bodies are also wrong to claim that the view that embryos have moral status is incompatible with embryo research. Having argued that the killing of an embryo is justifiable when the pregnant woman is at serious risk of losing her life if she continues with the pregnancy, for example in the case of an ectopic pregnancy, one could argue that embryos should also be legitimate candidates for destruction if embryonic material could be used to save other people who are at risk of losing their lives because of serious disease. However, there is a morally

relevant difference between sacrificing an embryo for the sake of those who might benefit from embryo research, and sacrificing an embryo to save the mother. The following analogy makes this clear. Many people agree that it can be morally right to kill out of self-defence, while agreeing also that killing is not acceptable to harvest organs which could save others. Since killing an embryo to save one's life is an example of the former, it is permissible. Since killing for the sake of the benefits which may be derived from embryo research has more in common with the latter, it is incompatible with the view that the embryo has moral status. If the embryo has moral status, the current legal climate in the UK, and in many other countries, fails to protect those embryos who are not created after a coercive act and those who do not pose a serious risk to the life of the pregnant woman. If the premise is valid, legal provisions must be created to assess formally if those considering embryo destruction find themselves in situations that involve either 'coercion' or 'serious risk', and research should be considered only on those embryos (who would, therefore, not be destroyed for the sake of research).

CONCLUSION

I have argued that the advisory bodies involved with the Human Fertilisation and Embryology (Research Purposes) Regulations 2001 have failed to establish that early embryos lack moral status by appealing to the first argument from probability. Early embryos are not like lottery tickets as their

value should not depend on the probability of a successful outcome. I have also argued, contrary to what these advisory bodies claim, that the view that the early embryo has moral status is compatible with a position of limited support for embryo destruction. While Savulescu rightly makes this point, I have shown that his option for a balancing approach - the second argument from probability discussed here - in which embryos are entered into a lottery in which some are destroyed for the benefits of others, is flawed. A revised interpretation of Judith Thomson's analogy of the famous violinist was proposed to illustrate the point that embryo destruction can be the lesser evil even if the premise that the embryo has moral status is accepted. If the embryo has moral status, the current UK legislative framework (and legislation in many other countries) related to the destruction of early human life must be revised in the light of this interpretation.

REFERENCES

1 The term 'embryo' refers to the 'human embryo' and will be used to refer to early life from conception until the eighth week. The term 'early embryo' will be used to refer to embryos younger than fourteen days old.

2 Statutory Instrument 2001 number 188.

3 Chief Medical Officer's Expert Group (Reviewing the Potential of Developments in Stem Cell Research and Cell Nuclear Replacement to

Benefit Human Health) *Stem Cell Research: Medical Progress with Responsibility*. London: Department of Health, 2000:4.2.

4 House of Lords' Select Committee (Appointed to Consider and Report on the Issues Connected with Stem Cell Research and Human Cloning Arising from the New Regulations) *Stem Cell Research. Report From the Select Committee*. London: HMSO, 2002:4.6, 4.8, 4.21.

5 A number of these other arguments are discussed in Deckers J. Why Current UK Legislation on Embryo Research is Immoral. How the Argument from Lack of Qualities and the Argument from Potentiality Have Been Applied and Why They Should Be Rejected. *Bioethics* 2005;**19**:251-271.

6 Savulescu J. The Embryonic Stem Cell Lottery and the Cannibalization of Human Beings. *Bioethics* 2002;**16**:508-529.

7 Thomson J.J. A Defense of Abortion. *Philosophy and Public Affairs* 1971;**1**:47-66.

8 See reference 3:4.2 and Executive Summary 17 and 26.

9 See reference 3:4.18.

10 See reference 3:Executive Summary 17.

11 For the alternative or additional interpretation, see Deckers J. Why Current UK Legislation on Embryo Research is Immoral. How the Argument from Lack of Qualities and the Argument from Potentiality Have Been Applied and Why They Should Be Rejected. *Bioethics* 2005;**19**:251-271.

12 See reference 4:4.13.

13 See reference 4:4.2.d.

14 The argument is by no means absent from the ethics literature. See for example Eberl J. The Beginning of Personhood: A Thomistic Biological Analysis. *Bioethics* 2000;**14**:134-157:156 and Campbell A, Gillett G, Jones G. *Medical Ethics*. 3rd edition. Oxford: University Press, 2001:102.

15 Public lecture at the University of Newcastle (UK) on 20 April 2004. See also Harries R. Human Embryos and Cloning.

(<http://www.oxford.anglican.org/page/332/>)

16 Walton of Detchant. Embryo Research - Why the Cardinal is Wrong. *Journal of Medical Ethics* 2000;**16**:185-186:186.

17 See also UK Parliament. *Human Fertilisation and Embryology Act 1990*. London: HMSO, 1990:190 (section 14 paragraph 1c) where the Act uses similar language in the context of the destruction of spare embryos by stating that after the statutory storage period they 'shall be allowed to perish'.

18 See reference 4:4.13.

19 In spite of many claims to the contrary (See for example Campbell A, Gillett G, Jones G. *Medical Ethics*. 3rd edition. Oxford: University Press, 2001:109), the status of IVF embryos is, therefore, in no way different from the status of other embryos.

20 See reference 3:4.2.

21 See reference 4:4.23.

22 See reference 5:510.

23 See reference 2.

24 See reference 3:4.11 and 4.12.

25 See reference 4:4.21 and 4.28 and recommendation 7.

26 See reference 5:525-526.

27 See reference 5:527-528.

28 See reference 5:529.

29 See reference 6.

30 See reference 6:48-49.

31 See reference 6:65.

32 Infanticide would not be tolerable as the infant is not the means by which the violation of one's bodily integrity is prolonged, as the infant is no longer dependent on the body of the mother for its survival.

33 Beckwith F. Arguments from Bodily Rights: A Critical Analysis. In: Pojman L and Beckwith F, ed. *The Abortion Controversy. 25 Years After Roe v. Wade. A Reader*. Second Edition. Belmont: Wadsworth, 1998:132-150:143.