

Target Article

# The Scourge: Moral Implications of Natural Embryo Loss

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It is often claimed that from the moment of conception embryos have the same moral status as adult humans. This claim plays a central role in many arguments against abortion, *in vitro* fertilization, and stem cell research. In what follows, I show that this claim leads directly to an unexpected and unwelcome conclusion: that natural embryo loss is one of the greatest problems of our time and that we must do almost everything in our power to prevent it. I examine the responses available to those who hold that embryos have full moral status and conclude that they cannot avoid the force of this argument without giving up this key claim.

**Keywords:** embryo, *in vitro* fertilization (IVF), moral status, spontaneous abortion, stem cells

The Scourge struck swiftly and brutally. This terrifying new disease, more deadly than any before it, left no part of the world untouched. From the poorest countries in Africa to the richest countries of the West, it killed with equal, horrifying, efficiency. It struck quickly, killing most of its victims within a few weeks of onset, and silently, for there were no detectable symptoms prior to death. Before the Scourge, the global death rate was 55 million per annum. That is, all causes of death—old age, war, murder, disease, and so on—conspired to take 55 million lives each year. The Scourge changed this dramatically. It alone killed more than 200 million people every year. From that time on, more than three quarters of the deaths each year were due to the Scourge. Where life expectancy in the West had risen steadily over the past century to 78 years, it had now dropped to just 29. Perhaps worst of all, the effects of the Scourge were not felt equally across all members of society. It killed only the very young and innocent—those who were completely powerless to prevent it.

Compared with the Scourge, all other problems seemed insignificant. The Scourge was the major issue of the age, and there was an overwhelming obligation on society to fight it. Other projects had to be put on hold and a major international effort directed towards loosening the Scourge's grip upon humanity.

The Scourge is a fiction, but a telling one. There is a very common claim made in reproductive ethics: that the human embryo has full moral status. This claim is of pivotal importance in the abortion debate, and it thus

has a strong influence over the political landscape in the United States (US) and elsewhere. However, if this claim is true, then we are already facing a threat as dire as the Scourge.

We shall begin with an explanation of the ethical claim that an embryo has full moral status. We shall then examine a rarely discussed fact about human embryology and show how, in combination with the ethical claim, this leads directly to an astounding conclusion which few people will be prepared to accept. This leaves proponents of the claim with a stark choice: they must either endorse this unwelcome conclusion, or give up the claim and lose the support that it lent to their positions on abortion, *in vitro* fertilization (IVF) and stem cells.

## THE CLAIM

The ethical debates around abortion, IVF, and the procurement of human embryonic stem cells all depend on the moral status of the human embryo.<sup>1</sup> Opponents of these practices frequently claim that embryos have full moral status from the moment of conception. That is, from the time when the ovum is fertilized, the resulting embryo has the same moral status as an adult human being. For brevity, we can call this *the Claim*.

Proponents of the Claim argue that it would be impermissible to destroy an adult human being in order to achieve the benefits of abortion, IVF, or stem cell use, and thus it

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1. For simplicity, I shall use the term *embryo* to refer indiscriminately to the *zygote*, *morula*, *blastocyst*, *embryo* and *fetus*. When used herein, the term is to carry no implications concerning a particular stage of development. I shall also restrict discussion to human embryos, although the qualifier may be dropped for brevity.

would also be impermissible to destroy an embryo for these purposes. If the Claim were false, and embryos had a lower moral status than adult humans, then it would be much more difficult to reach such conclusions.<sup>2</sup> Thus, much of the debate turns on the truth of the Claim.

In explaining the position of the Catholic Church, Nick Tonti-Filippini gives a typical statement of the Claim:

The Church sees every human life at every stage as equally worthy of protection and the more vulnerable a human being is at a particular stage, the more strenuous should be the community's efforts to protect him or her. . . . Thus from that first moment, that new human being demands the unconditioned respect that is morally due to a human being in his or her bodily and spiritual totality. (Tonti-Filippini, 1995)

This full moral status need not always entail equal treatment, for in some cases the differences in circumstances between an adult human and an embryo would be pertinent. For example, we do not need to defend an embryo's right to free speech because it cannot yet communicate. However, full moral status does entitle an entity to equal consideration: it implies that we must give the interests of embryos full weight in our ethical decision making. Because embryos have as much to lose from being destroyed as adult humans do, we would be required to refrain from killing them when we ought not kill an adult human and to protect their lives when we would be required to protect the life of an adult human.

Note that the Claim is not simply that the embryo is a human being. This would merely be a biological classification and would have no direct ethical import. It is often used as a stepping-stone to the Claim ('embryos are human beings; all human beings have equal moral status; therefore embryos have full moral status') but it is perfectly possible to accept that embryos are human beings without according them full moral status.

The purpose of this article is to show that the Claim leads to a very troubling conclusion. For the sake of argument, we shall thus accept that human embryos *do* have full moral status from the moment of conception and show where this leads us.

## NATURAL EMBRYO LOSS

The majority of embryos die within a few weeks of conception. This fact is widely known within medical circles, but is a surprise to many in the general public. Embryo death due to natural causes is known as *spontaneous abortion* and occurs very frequently. Two of the most respected studies of the incidence of spontaneous abortion are by Hertig (1967)

2. I do not mean to imply that arguments from partial moral status are weaker than those from full moral status, only that they are, by necessity, more complex and indirect. If the Claim is rejected, then so is the most simple and prevalent argument. For more on the question of full, partial or no moral status and its place in the public debate, see Nelson and Meyer (2005).

and by French and Bierman (1962). The information from these was combined by Leridon (1977) in the form of an intrauterine life table (represented in Figure 1).

As Figure 1 shows, the riskiest time is before the embryo has implanted in the uterine wall (which typically occurs between 8–10 days after conception (Wilcox et al. 1999). During this early stage, the proportion of surviving embryos drops off rapidly and only approximately 50% of them successfully implant. For those embryos that do implant successfully, the risk of death becomes much less significant and most will survive through to term.

These numbers show that spontaneous abortion is an everyday phenomenon. A mother of three children could be expected to have also had approximately five spontaneous abortions. An embryo's survival to term is the exception rather than the norm.

It might seem surprising that these dramatic death rates for early embryos could remain unknown to the general public. However, the reason for this is that most embryo loss occurs before the pregnancy has been detected, and the woman is unaware that anything out of the ordinary has happened. The embryo simply passes out of the uterus with the next menses.

Life tables such as that represented in Figure 1 show the decline in the size of a population over time. They allow us to see the proportion of the population surviving at any particular time and to ascertain where the significant rates of death occur. The most familiar type of life table shows a population from birth until an age where all members have died. For example, Figure 2 is a chart of the 2002 life table for the US (US Social Security Administration 2002).<sup>3</sup>

The curve begins with a distinct drop in the first year, which corresponds to the small, but noticeable, level of infant mortality in the developed world. Then comes a very gradual decline, which becomes steeper after middle age, drops quickly from age 70 through to 90 years, and then levels off once more. The point where the curve crosses the 50th percentile gives the median lifespan of 80 years. In this case it corresponds quite closely with the mean lifespan (or life expectancy) of 78 years.

Now let us join Figures 1 and 2—the unfamiliar and the familiar—to form the complete representation of mortality in the United States, from conception through to death (Figure 3).

This graph shows a very different view of human mortality. Here again is the familiar S-curve that shows the totality of deaths since birth. That smooth decline includes all deaths due to war, murder, disease and accident. However, all of this is overshadowed by the initial precipitous drop due to spontaneous abortion. In those first few months, more than 60% of the entire population die. For those who accept the Claim, each of these deaths (of which there are 220 million per year) must have just as much weight as the death of an adult human. For them, spontaneous abortion is the greatest killer of all: it is the Scourge.

3. Life tables for other first world countries are relevantly similar.

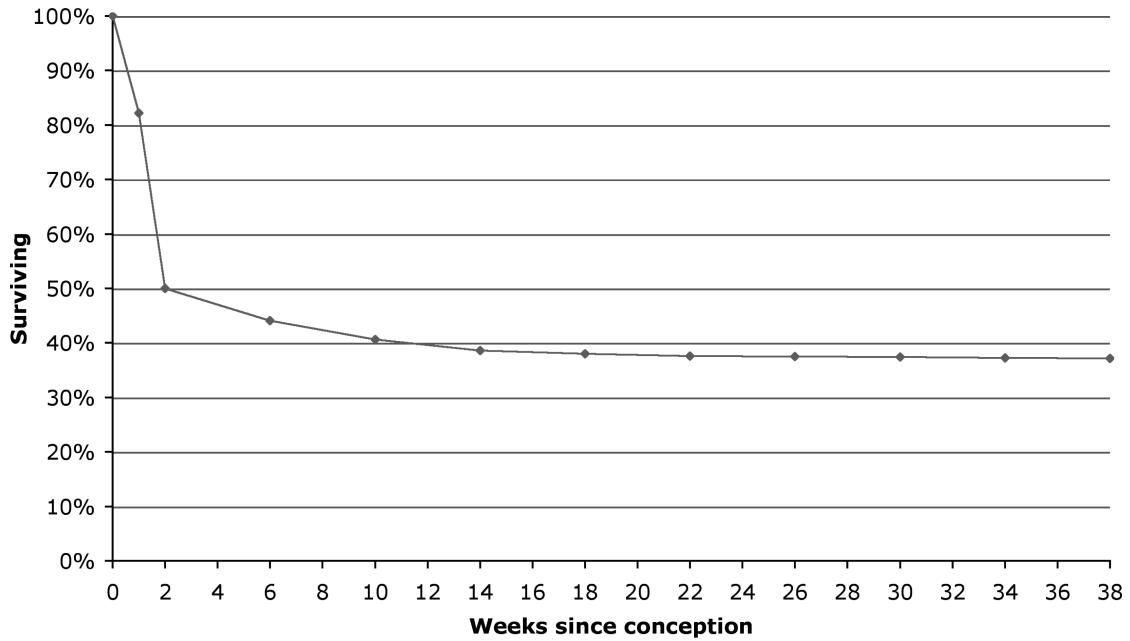


Figure 1. Intrauterine life: Graph of survival and weeks since conception.

**AN UNWELCOME CONCLUSION**

If we compare the description of the Scourge to the facts relating to spontaneous abortion we are faced with the following:

- Both are more deadly than anything else in human history.
- Both strike with equal effect in all parts of the world.
- Both kill most of their victims within weeks of onset.
- Neither is detectable before death occurs.

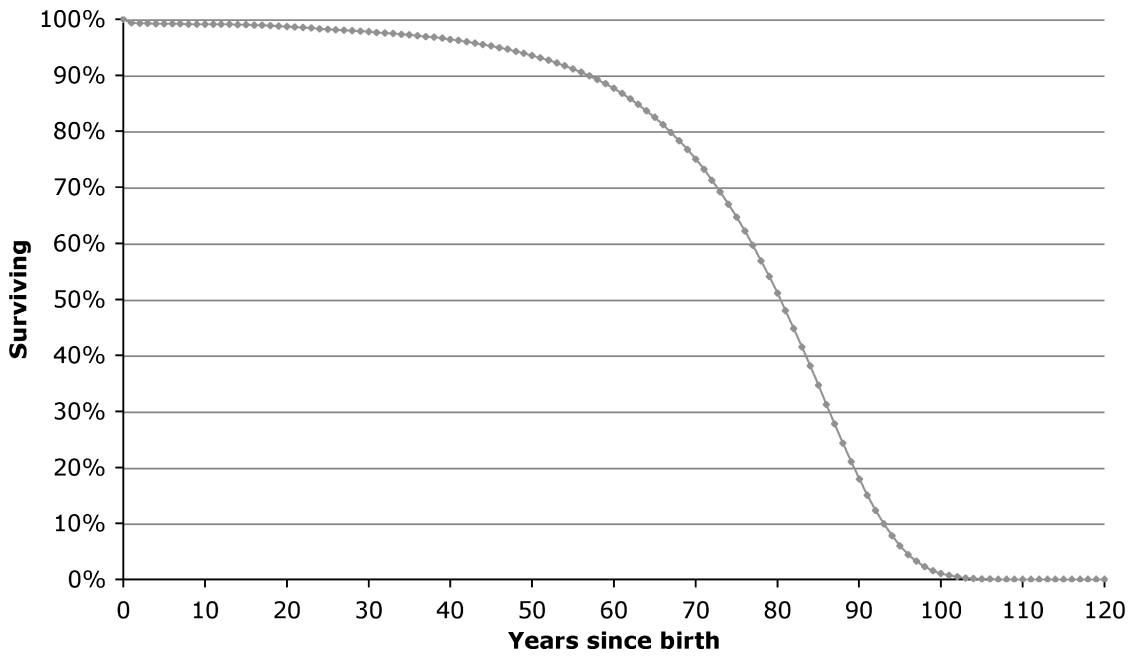


Figure 2. Graph of survival and years since birth for the United States population (US Social Security Administration 2002).

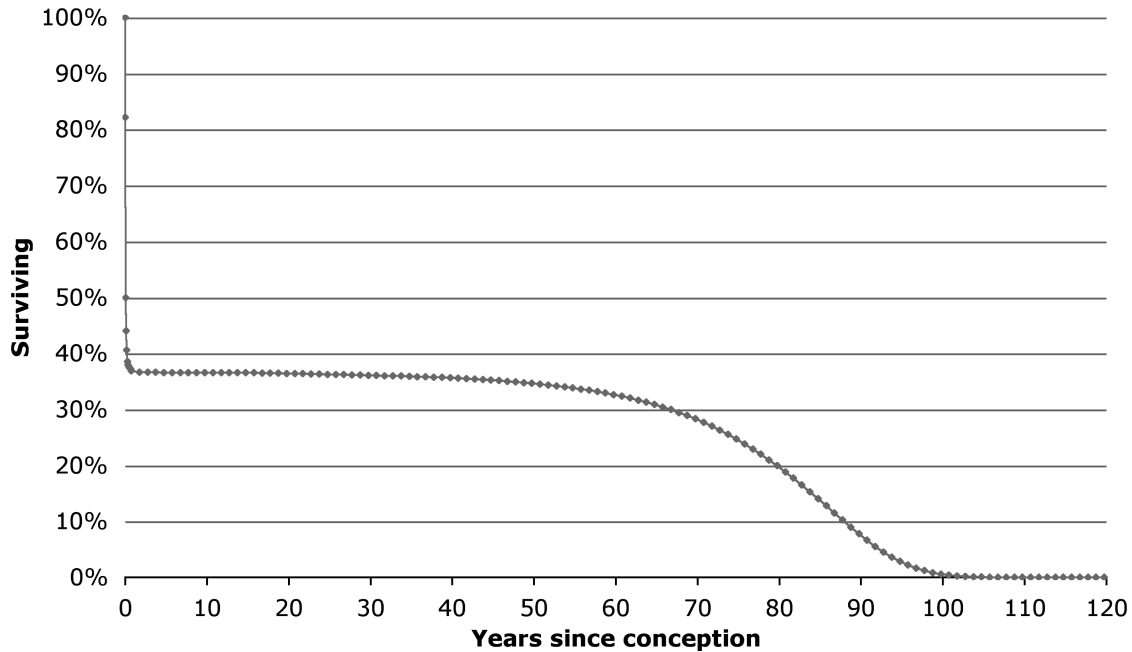


Figure 3. Graph of mortality in the United States from conception through to death.

- Both kill more than 200 million people each year.<sup>4</sup>
- Both account for more than three-quarters of all deaths per year.
- Both reduce the life expectancy in the developed world to a mere 29 years.<sup>5</sup>
- Both kill only the very young and innocent: those who are powerless to save themselves.

The only differences are that the Scourge was said to be a disease, and that it arrived suddenly. Spontaneous abortion has not arrived suddenly: it has been with us since humanity arose. It is not a disease, but a label that applies to all embryo death from natural causes. Those differences gave the Scourge a sense of immediacy, but were not ethically relevant. That cancer has been with us since the earliest days does not make it any less bad, or reduce the need for a cure. That spontaneous abortion is caused by a variety of genetic and hormonal problems does not make it any less bad either.

What is relevant is that (according to the Claim) it leads to more regrettable human death than all other causes put

4. The current global birth rate is 2.009% per year and the current population is 6.602 billion (*CIA World Factbook 2007*). Therefore, 133 million people are born each year. With a survival rate to term of only 37% (Leridon 1977), this means that approximately 226 million embryos die from spontaneous abortion each year, 201 million of these within 6 weeks of conception.

5. The current life expectancy in the developed world is 78 years (*CIA World Factbook 2006*). As this only takes into account the 37% who survived to term, the adjusted life expectancy is 29 years. The median is much lower still, at 2 weeks post-conception or approximately 8.5 months *before* birth.

together. Cancer, in all its forms, kills 7.6 million people per year, while spontaneous abortion kills 30 times this number (World Health Organization 2005). In 6 years, the Second World War killed approximately 60 million people, whereas spontaneous abortion kills more than three times this number every year. For supporters of the Claim there is little choice but to see it as one of the world's greatest problems, if not *the* greatest problem.

The introduction to the Scourge ended with a practical conclusion:

There was an overwhelming obligation on society to fight it. Other projects had to be put on hold and a major international effort directed towards loosening the Scourge's grip upon humanity.

For supporters of the Claim, it is difficult to resist a similar conclusion. Finding a means of saving even 5% of embryos from spontaneous abortion would save more lives than a cure for cancer. If we see one of these as requiring an immense international collaboration, then why not the other?

The argument then, is as follows. The embryo has the same moral status as an adult human (the Claim). Medical studies show that more than 60% of all people are killed by spontaneous abortion (a biological fact). Therefore, spontaneous abortion is one of the most serious problems facing humanity, and we must do our utmost to investigate ways of preventing this death—even if this is to the detriment of other pressing issues (the Conclusion).

I do not expect many people to accept the Conclusion. Instead, most of the people who see this argument say that the Conclusion is absurd: that it may be somewhat regrettable

for so many embryos to die, but it is certainly not one of the world's major issues. Indeed, I too share this response. However, this is not compatible with accepting the Claim. For the argument shows that when combined with an important medical fact, the Claim leads immediately to the highly dubious Conclusion.

Is there any way out of this for defenders of the Claim? One certainly *could* save the Claim by embracing the Conclusion, however I doubt that many of its supporters would want to do so. Instead, I suspect that they would either try to find some flaw in the argument, or abandon the Claim. Even if they were personally prepared to embrace the Conclusion, the Claim would lose much of its persuasive power. Many of the people they were trying to convince are likely to see the Conclusion as too bitter a pill, and to decide that if these embryo-related practices are wrong at all, it cannot be due to the embryo having full moral status.

This argument, in its basic form, is not original to the present paper. Since the writing of this paper, I have found similar arguments advanced by Murphy (1985), Millican (1991, 173–174) and Green (2001, 37–38), who appear to have arrived at it independently. However, none of them seem to realize quite how far the argument can be taken: Millican and Green spend only a few sentences discussing it, whereas Murphy provides a fuller treatment, but does not reach as strong a formulation of the Conclusion and is thus hesitant to treat it as more than an interesting consequence of the Claim. Only in his final remarks does Murphy venture that the Conclusion is 'problematic' (1985, 83).

Because it has not been put in its strongest terms, the argument has not received its due attention. The argument is medically and philosophically simple. It shows a highly suspect conclusion that can be derived directly from one of the core bio-conservative claims. It is a pressing concern for all people who are moved to ban abortion, IVF, or the gathering of stem cells, on the grounds that the embryo has full moral status since the time of conception.

This argument is distinct from a number of other arguments that appeal to the rates of spontaneous abortion. For example, it is sometimes said that since so many embryos die naturally, IVF and stem cell research are at least as ethical as natural reproduction (Harris 2004, 128–143); or, since so many embryos die naturally, we would have an obligation to take a pill to avoid spontaneous abortion if such a pill were available (Fleck 1979); or, since so many embryos die naturally, the Claim would make it wrong to conceive; or even since so many embryos die naturally, it doesn't matter if we kill one.

Some of these other arguments have merit and some do not. Either way, they should not be confused with the argument being made here, which is that since so many embryos die naturally, the Claim would oblige us to treat this as one of the world's most serious prob-

lems and direct truly significant resources towards saving them.

## EMPIRICAL OBJECTIONS

When confronted with this argument, there are a number of ways in which a defender of the Claim might try to reject the troublesome inference. First among these would be to simply reject the numbers that have been cited. After all, to those who are unfamiliar with human embryology, these numbers appear unrealistically high—one might think that women would have noticed if so many pregnancies abort. However, as mentioned previously, the bulk of these occur prior to implantation and, because it is not possible to clinically detect the pregnancy at this stage, there is no way that women *could* tell that they had conceived. Menses occurs as usual and the embryo is undetectably expelled from the uterus. The fact that it is unnoticed gives us no reason to doubt that it occurs.

Critics might also point to studies that show quite different figures for the rate of spontaneous abortion. The most important point here is that there are several distinct statistics related to embryo death and they should not be confused. Firstly, there are figures for the proportion of fertilized ova that do not come to term. These are the figures that we have seen in this article. Then there are figures for the proportion of recognized pregnancies that do not come to term. This figure is always considerably lower for the simple reason that it takes 10–15 days for pregnancy to be detectable (and longer in some of the older studies). Many of those embryos lost in the first 2 weeks will thus not be counted in this statistic; although the death rate will appear lower, this is not the relevant rate. Because a 'pregnancy' is often medically defined as the time since the implantation of the embryo rather than the fertilization, this is an easy mistake to make.

Even among the statistics for embryo loss since conception, there is some room for disagreement. The figures for early spontaneous abortion (within the first 6 weeks) range from 45% to 75%, with the lower estimates appearing mainly in textbooks and the higher ones in peer-reviewed articles (Boklage 1990, 78; Leridon, 1977, 81; Potts et al. 1977, 60; Loke and King 1995, 225). These academic estimates have been rising and suggest that the true rate of early spontaneous abortions may well be even higher. The figures that I have used (56% at 6 weeks, 63% by term) are thus far from radical, and they come from one of the most respected studies. Even if a critic preferred one of the lowest estimates, such as 45%, this would make very little difference to the derived numbers and charts above, and the conclusion would not be any easier to avoid.

A critic might also argue that, unlike in the case of cancer or the Scourge, there is simply nothing we can do to prevent spontaneous abortion. Thus, even though the Claim may lead to the conclusion that spontaneous abortion is one of the greatest evils in the world, we would not have to draw any



troubling practical conclusions. Such critics might look to support from the fact that many cases of spontaneous abortion are due to chromosomal abnormalities. That is, many of the embryos that spontaneously abort have suffered from a problem in the fertilization process, leading to chromosomal defects such as trisomies (having a third copy of particular chromosome). Because such defects are present since conception, occur in every cell, and are often fatal, there may seem to be little hope for reducing the incidence of spontaneous abortion.

However, while many cases of spontaneous abortion do indeed result from chromosomal defects, this is not enough to undermine the main argument in this article. There are several reasons for this. First, it is important to note that some chromosomal defects are non-fatal, such as Down syndrome (which involves three copies of chromosome 21). We rightly value people with Down syndrome and so, if the Claim is correct, we should also value and protect embryos with similar chromosomal abnormalities. Secondly, we may well be able to make great progress in curing chromosomal diseases through gene therapy or a similar technique. This would be difficult, but if the Claim is correct, then it would also be of overwhelming importance. For comparison, it is clearly very difficult to find a cure for cancer and we cannot be certain that a cure is even possible. However, because it is so critically important, there is still a moral imperative to continue the research. Thirdly, we may be able to use techniques such as sperm sorting to avoid some of the chromosomal defects occurring in the first place. While this would not save pre-existing lives, it could prevent a vast amount of embryo death and may be technically easier than fixing an existing defect.

Finally, and most importantly, the proportion of spontaneous abortions due to chromosomal defects is only between 30% and 60% (Bieber and Driscoll 1995, 178). The other 40% to 70% of spontaneous abortions occur for other reasons, many of which appear amenable to treatment. These include hormone deficiencies, maternal diseases (such as diabetes mellitus and herpes simplex infection), immunological factors, uterine malformation, nutritional deficiency, short inter-pregnancy interval, maternal smoking and ethanol use (Bieber and Driscoll 1995, 178). The risk of spontaneous abortion also increases significantly with maternal age and with the number of prior births (Potts et al. 1977, 58). There is even evidence that use of the rhythm method contributes towards spontaneous abortion as it increases the proportion of conceptions involving older gametes and these have a greater chance of aborting (Potts et al. 1977, 50–51).

Even if we ignore those cases where there are chromosomal abnormalities, spontaneous abortion would still be killing between 90 and 150 million humans per year. Unlike chromosomal abnormalities, the underlying causes of spontaneous abortion in these cases appear to be eminently treatable. Supporters of the Claim thus cannot simply argue that there is nothing we can do. There are many promising avenues and the onus is clearly on those who value human

embryos so highly to make an immediate push for large-scale research programs to see if great inroads really can be made. Every year of delay may mean another 90 million needless human deaths. In light of such possible treatments and the millions of lives at stake, to simply assert that nothing much can be done would be a failure to take the Claim seriously in the first place.

## PHILOSOPHICAL OBJECTIONS

In addition to these empirical objections, there are a number of philosophical arguments available to those who wish to keep the Claim while rejecting the Conclusion. In an addendum to their submission to the President's Council on Bioethics, Robert George and Alfonso Gómez-Lobo play down the high rates of spontaneous abortion:

It is worth noting first, as the standard embryology texts point out, that many of these unsuccessful pregnancies are really due to incomplete fertilizations. So, in many cases, what is lost is not actually a human embryo. To be a complete human organism (a human being), the entity must have the epigenetic primordia for a functioning brain and nervous system. . . (George and Gómez-Lobo 2005, 208).

While this was directed at a slightly different argument, it could be thought to apply here too. If the entities that spontaneously abort are not actually human embryos at all, then we could keep the Claim while avoiding the Conclusion. However, even if we accept this definition of what is required to be human (and it is certainly questionable), the Conclusion cannot be avoided, for this argument suffers from the same defect as the previous, empirical, argument. While it would allow a supporter of the Claim to avoid the Conclusion in regards to chromosomally abnormal embryos, this still leaves us with at least 90 million chromosomally normal embryos dying from spontaneous abortion each year. As noted previously, this figure is still more than enough to produce the Conclusion on its own and no attempts to exclude chromosomally abnormal embryos will help defuse the argument.

A supporter of the Claim might instead argue that while deaths from early spontaneous abortion are regrettable, they are not as bad as other deaths because they are the result of a natural process. Unlike the previous argument, this one fails not because it is too weak, but because it is too strong. Many causes of death, such as cancer, are also perfectly natural processes. However, we do not (and should not) stop treating cancer simply because it is natural. The problem with cancer is that it causes a vast amount of unnecessary death and this is enough to make it extremely bad, even if it is a natural harm. For those who accept the Claim, spontaneous abortion is a much greater harm than cancer and thus curing it is at least as important an issue. Indeed, this analogy works against many other philosophical objections as well: it is extremely difficult for a defender of the Claim to argue that we have no strong reasons to act against spontaneous abortion without also concluding that we have no strong reasons to act against cancer.

A third possible objection concerns an analogy between embryos and the elderly. It might be said that while the elderly have equal moral status to the young, it is less regrettable when they die. Perhaps this extends to both ends of a person's life, and thus while embryos have equal moral status, their deaths from spontaneous abortion are not as important as the deaths of adult persons. One problem with this argument is that the analogy is very weak. An obvious reason for it to be less important if an elderly person dies is that there are fewer life-years at stake. A person who dies at age 20 years could be expected to have had another 60 years of life if they could have avoided this particular cause of death. In contrast, a person who dies at age 90 years could only expect approximately 5 more years of life. This form of reasoning breaks down when it comes to an embryo that is spontaneously aborted, for then an average of 78 life-years are lost.

Perhaps the analogy could be sustained if we consider that an embryo does not yet have any life plans or projects, and that this makes their deaths less important than adult deaths. However there is a serious problem with this approach in general: by valuing lives on a sliding scale, it risks making the Claim completely empty. The Claim is typically used to avoid broadly utilitarian conclusions in which the interests of an adult human outweigh the interests of an embryo. However, if embryos are considered to be less important than adult humans, then this task cannot be achieved. Indeed, if the very goal of this argument is to show that we can pursue our own interests rather than striving to save the lives of 200 million embryos per year, then it is unsurprising that it will have other conclusions where the pursuit of our non-critical interests outweighs embryo deaths. Since this is exactly the type of conflict involved in cases of abortion, IVF and stem cell collection, proponents of the Claim who go down this route will be unable to use the Claim to derive their usual conclusions against these practices. Even if a defender of the Claim were willing to give up these conclusions, they would be left with a version of the Claim, which is so weak that it is compatible with utilitarianism. Thus, while the idea of a gradual emergence of value from conception onwards is an attractive possibility for many, it cannot be used by defenders of the Claim.

Finally, one might try to avoid the Conclusion by arguing that the full moral status possessed by embryos restricts us from harming them, but does not require us to protect them from naturally occurring harms, such as spontaneous abortion. There are two separate ways that such an objection can be developed and each has its own problems. In one regard, it might imply that there is no duty to protect *anyone* from natural harms. If so, then it is already highly counterintuitive for it is a common belief that we would have a serious moral obligation to save a child who was drowning in front of us, to help victims of natural disasters and to fund research into curing cancer.

In another regard, if there is no duty to protect embryos, but there is a duty to protect humans once they are born, then the embryos do not have full moral status at all. Such

an asymmetric theory, where embryos have 'negative rights' but not the 'positive rights' of adult humans, may well be a superior ethical theory, but it involves giving up the Claim that embryos have full moral status. In addition, both forms of this objection still require us to consider the loss of the embryos to be *deeply* regrettable and of enormous significance, even if they do not actually force us to act on it.

## IMPLICATIONS

To many, the Conclusion is completely implausible. They find widespread embryo death to be surprising and perhaps regrettable, but certainly not a key moral issue of our time. I will not argue directly for the falsity of the Conclusion here, but rather will let its implausibility speak for itself. Some, no doubt, will defend the Conclusion, but most people will find it preposterous.

The only way to avoid the Conclusion is to abandon the Claim—to accept that full moral status does not begin at conception. This will seriously undermine the most prominent objections to induced abortion, IVF, and the collection of stem cells. If these practices are wrong at all, then it must be for some other reason. Opponents of these practices who formerly accepted the Claim will have to re-evaluate the situation, for they cannot consistently remain opposed without new arguments. Whether they eventually change their minds on these practices or not, they will have to join others in one of the most difficult ventures of reproductive ethics: finding a non-arbitrary time after conception at which full moral status is first attained.

Does this argument have any impact for those who already think that the embryo has partial status? It depends upon the exact position. For example, those who grant the embryo full moral status *in utero*, but lesser status if removed prior to development, are vulnerable to exactly the same argument.<sup>6</sup> If the embryo has full moral status *in utero*, then we would have an overwhelming duty to protect all those embryos which spontaneously abort. In general, if an embryo is granted sufficient moral status in the first few weeks of a pregnancy to require active protection when threatened, then the Conclusion will follow.

Those who 'bite the bullet' and accept the Conclusion will have a very difficult time. They will have to accept a very strange ethical belief, and they cannot leave it as a purely theoretical view—for if they really believe that the Scourge is with us, then they will be compelled to fervent action. It is also a belief that will alienate them from much of the public. It will be very difficult to convince people that the Claim makes induced abortion wrong when they know that the Claim comes along with the Conclusion.

Finally, it is worth reflecting on the very simplicity of the argument. The Claim is widely held. The medical fact is not widely known to the general public, but is hardly a secret. Surely many of those who truly consider embryos to be the

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6. This position is held by some who advocate embryonic stem cell research and oppose abortion, such as Senator Orrin G. Hatch (R-UT).

moral equal of adult humans would want to investigate the health of embryos and would find the statistics on spontaneous abortion. The Conclusion then directly follows from the Claim and these statistics.

A true believer in the Claim should be deeply interested in the terrifying Conclusion and should act to alert others to the existence of this Scourge. We might expect something like the call to arms following the publication of *Animal Liberation* (1975). However, there has been no such call from the proponents of the Claim. Even if they had an objection to the argument, it would be of grave importance to make sure that this objection really works and that the argument does not go through. It could not be enough to merely reach personal satisfaction on the matter, for with 200 million lives per year at stake, it would surely be a matter for heated discussion in the journals or in the Church. This marked lack of curiosity about what is claimed to be of immense importance suggests that even now, few people really believe that full moral status begins at conception.

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