

**The beginning of human life and the moral status of the embryo**  
**A DEBATE OUTLINE**  
Danish Council of Ethics, 2004

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## **A DEBATE OUTLINE**

The Danish Council of Ethics, 2004

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## Foreword

DOES AN EMBRYO from the moment of conception have the same moral status as a born human being? Or does it achieve full moral status at a particular juncture during pregnancy? Or does it perhaps attain increasing moral status as pregnancy progresses? And what ethical obligations to the embryo does such status entail?

The debate outline by the Danish Council of Ethics focuses on the issues of the time at which human life begins and the moral status enjoyed by an embryo. In publishing this, the Council hopes to contribute to the debate on the subject which is currently taking place in both the public arena and the political system—a debate that has taken on renewed topicality in very recent years owing to the interest in research on stem cells taken from embryos. Embryos perish as a result of this kind of research, and that of course has raised questions as to whether it is ethically acceptable. The answer to the question depends entirely on the attitude to the moral status of the embryo.

The debate outline contains firstly four points of view and then four background chapters. The four points of view illustrate some of the different approaches to the issue of the embryo's moral status that have been put forward under the Council of Ethics' debates on the subject. That is not to say that there may not be other points of view. The four mentioned in this debate outline merely illustrate differing views among the Council of Ethics' members.

The four background chapters shed light on the question of the embryo's moral status from a number of angles, i.e. a biological, a philosophical, a religious and a legal slant. They thus serve to present the approaches most often used as a basis for debating the issue of the embryo's moral status in a specialist context. The background chapters elaborate on and add perspective to some of the arguments adduced in the four points of view. The background chapters can therefore be read either before or after reading these.

The debate outline has been discussed at the Council of Ethics' plenary meetings and was finally adopted in December 2002. It was compiled on the basis of discussions on the Council's working party on the beginning of human life and the moral status of the embryo. This party consisted of Frederik Christensen (from September 2002), Lene Gammelgaard, Mette Hartlev (until May 2002), Ole Hartling, Kathrine Lilleør (from September 2002), Ragnhild Riis, Karen Schousboe, Katrine Sidenius, Sven Asger Sørensen (chairman), Ellen Thuesen, Erling Tiedemann and Peter Øhrstrøm.

The working party has benefited greatly from a number of experts who have made their expertise available. For this commitment, thanks are extended to imam Fatih Alev, Dr Henri Goldstein, MA, MD, consultant, and Dr Jakob Wolf, DTheol, senior lecturer.

For the sake of good order, it should be mentioned that none of these are responsible for the contents of the debate outline; that responsibility rests purely with the Council of Ethics.

December 2002

Erling Tiedemann  
*Chairman of the Danish Council of Ethics*

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*Head of Secretariat*

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## Why is the Council of Ethics preparing the groundwork for a debate on the subject?

WITH THIS DEBATE OUTLINE, the Danish Council of Ethics is seeking to focus on the moral status<sup>1</sup> held by an embryo. To many, this question will seem anything but simple to answer. The fact that the Council of Ethics considers it necessary to contribute to the debate is due to a number of possible new courses of action in relation to the embryo highlighted by recent years' developments in biotechnology.

Until a few years ago, it was a matter of course that human life only came about as a result of combining an egg cell and a sperm cell. But that can no longer be taken for granted. Because of new fertilization techniques, it is now possible to produce human life in an entirely different way, i.e. through cloning, whereby an embryo is created from a somatic cell and an (enucleated) oocyte, but without the involvement of a sperm cell.

In addition, technological developments have meant that the embryo can be used for purposes other than having children—more particularly, for example, generating and researching stem cells.

Section 1 of the Danish Act of 1987 on the Danish Council of Ethics states that "The Council shall carry out its work on the assumption that human life begins at the moment of fertilization." The Danish Minister for Health's reply to a question from the Parliamentary Committee on the Creation of a Council of Ethics (1987) confirms that Parliament's intention was not to legislate on anything factual in biological terms. The Minister for Health responded that "the intent of the wording of the final point of Section 1 of Act 76 (was) not to provide a definition of human life and its origins. The intent of the wording was to establish that the Council of Ethics should base its operations on the premiss that not being a human life is not, in any ethical or legal respect, an argument in favour of unrestricted freedom of action vis-à-vis the fertilized human egg; or, to put it the other way round, that from the time of fertilization, inclusive, a situation exists in which it is ethically and legally necessary to consider and possibly introduce special constraints on such freedom of action."<sup>2</sup> The statutory provision thus suggests an ethical and legal consideration, as well as a time from which to observe this consideration.

It can also be put this way: by making reference to something biological, Danish parliament wishes to emphasize an implied issue of values, i.e. the degree to which embryos and fetuses must be viewed as being worthy of protection. The sentence in Section 1, and its construction, have taken on renewed and redoubled topicality in the light of the possibilities emerging for the use of cells from early embryos in the treatment of disorders, and the knowledge about disease processes potentially available from exploring these cells. These are what are known as the embryonic stem cells, and they can also be generated by cloning in some cases. They involve stem cells from embryos up to six days old.

It needs to be stressed that the different stem cell therapies envisaged are not yet available, but some researchers and industry in general consider the prospects so promising that they are taking a keen interest in being able to research into embryonic stem cells. And the information given in the media in this respect has also made various patient groups particularly keen to get this research underway.

However, the possible use of embryonic stem cells has given rise to extensive debate.

The Council of Ethics has seen its fair share of debate, too—not just in connection with drafting this debate outline but in many other contexts. The extent to which an embryo should be viewed as worthy of protection is, after all, a question that has cropped up in many of the contexts dealt with by the Council generally. There is every reason to expect that the issue will be central to the social debate in years ahead too.

The following chapters reproduce various considerations from the Council's discussions on the moral status of the embryo. These can be seen as a contribution to the general debate. The fact that such considerations have been formulated as different points of view is not necessarily tantamount to an individual member of the Council feeling that his or her views are fully covered by any one particular view. Rather, they represent reflections on a diversity of approaches to a complex problem. Nor is the point of a debate outline to suggest that people should choose between these viewpoints beforehand. Indeed, in the debate, some may think that their view is expressed by a combination of components taken from the various approaches, while others will feel that their view has not been included in the debate outline at all.

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<sup>1</sup> The 2<sup>nd</sup> background chapter of the debate outline will include a discussion of various definitions of "moral status", so here it need only be mentioned briefly that if an individual has moral status, it initially denotes that one may have obligations towards that individual. That is to say that ethically defined reasons exist for showing it consideration.

<sup>2</sup> *Karnovs Lovsamling* [annotated code book of the Danish body of laws], note on Section 1 of the Act.

The debate outline concludes with a number of background chapters, which may help to provide a backdrop to the debate:

- the 1st background chapter describes the biological development of the embryo
- the 2nd background chapter describes the deliberations of various philosophical schools on the beginning of human life and the moral status of the embryo
- the 3rd background chapter describes different religions' views on the beginning of human life and the moral status of the embryo
- the 4th background chapter describes Danish and international regulations governing embryos.

The four background chapters serve to present the points of view on which the presentation of arguments is often based. These particular angles reflect different dimensions of the same reality, but precisely because it is the same reality, a subtly differentiated statement is sometimes concluded on the basis of a number of approaches.

As human beings, we can all form a personal view based more or less consciously on underlying biological, religious, philosophical and legal considerations—and possibly also on our own or other people's interests. Experience tells us that two people can certainly agree as to when human life begins while nevertheless disagreeing on the degree of respect and protection which that life enjoys at different stages of its development.

There is ample scope for talking at cross-purposes and for basing both agreement and disagreement on tacit premisses. But when we come to debate such things with one another and attempt to reach mutual consensus, we have to scrutinize both our own and other people's views more closely. The account given in this debate outline aims to be conducive to such an analysis and clarification.

## Points of view emerging from discussions on the Council of Ethics

WHEN THE QUESTION about the beginning of life and the moral status of the unborn life has been discussed on the Danish Council of Ethics, its members have often felt the same way as Danish parliament and many others, cf. Chapter 1. For it has proved difficult to make a clear distinction between 1) something purely biological and 2) an ethical assessment of the same. Other participants in the debate will probably feel the same way too. Not that this is so odd, because a distinction certainly can be made between the two things, but it is nevertheless difficult to separate them and speak about one without also involving the other.

Added to this is the difficulty that different people ascribe different shades of meaning—or possibly even different significance—to the words and concepts we all use: life, human life, the life of a human, a human life, a person's life and so on.

The discussion below is given over firstly to the collective reference point for varying stances on the question of the moral status a new life must be regarded as commanding. Then follow four different points of view, which are not only different in their conclusions but equally different in form, as debate views frequently are.

### HUMAN LIFE—BUT WHEN?

The attitude that human life has special status is common to the majority of the philosophical and religious interpretations of life which are known to us and enjoy a certain following in our part of the world. The same applies to the legislative controls governing a great deal of social conditions where respect for human life also plays a crucial role.

But when *is* it a human life? Answering that question is altogether necessary, because if it is not possible to determine when something living can be characterized as a human life, how are we to know what is due respect—and from what point?

Taken individually, a sperm cell or an egg cell can properly be designated as life. Yet surely few people would entertain the idea of describing a sperm cell as a new life? Very few would dispute that a new life arises when the egg and sperm cells unite during fertilization to become one unique organism with a genetic make-up possessed by neither egg nor sperm cell individually.

If this new life has been formed in a woman's body, it will start developing as described in the 1st background chapter, assuming all goes well, and after just less than a week or so it will take hold in the womb and continue developing into a complete child. Even if implantation did not occur (i.e. the fertilized egg did not take hold in the womb), and although miscarriages can occur spontaneously, this still does not alter the fact that the unborn life has a status, even if it does not go on to be born.

A couple of other considerations need to be aired, however.

### ARE EMBRYOS FROM TEST TUBE FERTILIZATION ANY DIFFERENT?

Although this debate outline generally deals with the beginning of life and the moral status of the embryo, modern biotechnology in particular has made it necessary to consider the question from new angles.

The embryos that some wish to use for research originated not in a woman's body but outside of it, in a so-called petri dish, after the egg cell had been removed from the woman and fertilized with the man's semen.

Does this make such embryos different by nature?

Many forms of infertility treatment consist precisely of producing embryos outside the woman's body with a view to subsequently implanting them in the womb, where they have the opportunity to develop into full-term children. The fact that this is even feasible shows that the embryos have not taken on a different character by being created outside the woman's body.

### AND WHAT OF CLONED EMBRYOS?

Modern biotechnology, however, has not only taught itself to combine egg and sperm cells in a glass dish. It has also learned to produce embryos by another means, i.e. so-called cloning; how then are such embryos to be thought of?

Many aspects of cloning remain unclarified, but the production of Dolly the sheep, and many other cloned animals since, has provided the answer to the question being asked here at any rate: Was the embryo that turned into Dolly comparable with what would have been the outcome if the ewe had become pregnant the normal way, or if the embryo had been created by artificial insemination in a glass dish?



The simple answer is that if these embryos were not equatable in biological terms, no sort of Dolly would have come of it.

The cloned human embryo also needs to be viewed in the same way, then, as it will also be commensurate with embryos that come about—in one way or another—as a result of fertilization.

The conclusion to these considerations is that whether it happens in a woman's body by natural fertilization, by means of artificial insemination/assisted reproduction or by cloning, the result is a new human life, which under the right circumstances can evolve into a fully developed human being.

#### **SUMMARY**

During fertilization, when the sperm cell penetrates the egg cell and fertilizes it, a whole new life begins. This is not altered by the fact that fertilization is then in progress for some 20 hours and can be divided into phases, just as the ensuing development of the fetus has phases with seamless transitions.

An embryo is not a complete human being, of course. It has first to develop into that. But after fertilization there are no visible biological changes during subsequent embryonic development to justify saying that, biologically speaking, a new life has only just arisen at some later juncture.

However great the consensus for making these considerations of the biological aspects the basic premiss on which to then take a stance on the moral status of the embryo, not everyone—as already emphasized repeatedly—arrives at the same conclusion in this connection. The ethical issue now is how to view this new life, i.e. what moral status it is deemed to have and, accordingly, what it will be permitted to do with it.

In this respect, four different points of view will be outlined below.

## The moral status of embryos: four viewpoints

### 1<sup>st</sup> VIEWPOINT

SECTION 1 OF THE ACT ON THE DANISH COUNCIL OF ETHICS states that "the Council shall carry out its work on the assumption that human life begins at the moment of fertilization". The Act was framed at a time when the germ of a human being came about by the fusion of an egg and a sperm cell, whether inside or outside the woman's body. Since then, developments in biotechnology have shown that, in principle, it will be possible to craft the germ of a human being by cloning the same way Dolly the sheep was produced, which is to say without the involvement of a normal egg cell or a sperm cell. In practice, moreover, there have proved to be different views of what is meant by "human life", or when human life arises, more particularly.

Although cloning is not fertilization proper, as hitherto perceived, it is reasonable and hardly controversial to expand this concept so as to have fertilization also include the cloning process, since the result—the making of a human being—will be the same if human *reproductive* cloning is ever carried out. Bringing cloning into the debate about the origination of human life is still relevant because it is perfectly possible to imagine *therapeutic* cloning, which does not result in the birth of a human being, being potentially introduced for the purpose of developing embryonic stem cells and/or organs for treating severe diseases. Thus, as Section 1 is framed, it will be able to be used on cloned embryos. Conversely, it has proved more difficult to render an account of what should be understood by human life, and when it begins.

If some definition of when human life begins is to be attempted, it is first necessary to create clarity as to what human life is. How else should it be possible to define when it starts?

Given the treatment it receives in the Act on the Danish Council of Ethics, it is surely self-evident that the ethical rather than the biological aspects of human life were intended here, although the two can be hard to keep apart—especially when dealing with the beginning of human life: What is really involved here is *the embryo's* ethical or moral status.

Surely no one will deny that humankind has a special moral status, which differs from that ascribed to animals, for example. But although most people will have some notion of what constitutes human life in the ethical sense, providing a clear-cut definition will be difficult. Yet when the moral status of the embryo is involved, as is the case here, no such strict definition is necessary, since the following two questions can be posed instead: does the embryo have the same moral status as the born person? and: when does it attain moral status with a claim to protection? The reply to these questions is topical in terms of making an ethical evaluation of the use of embryonic stem cells for treating severe disease.

Looking at the fertilized egg, however it may have been formed, it is hard to see that it has anything in common with the born person, either in appearance, behaviour or function. There is only one thing the fertilized egg will continue to have if it develops and is born: its genes.

Although, in the first and last instance, genes are crucial to both the embryo and the born person, the moral status of the latter will be determined to a far greater extent by factors other than its gene pool; and most of those factors will be of no relevance to the embryo. Consequently, the moral status of the embryo cannot be equated with that of the human being. An embryo is alive, biologically, but it is not a person and therefore has no human life.

If the embryo is ascribed the same moral status as a person, any intervention or conduct resulting in an embryo or fetus not being allowed to develop will be ethically unacceptable. That will be the case, for instance, with induced abortion, including selective abortion, disposal and freezing of surplus eggs from IVF-treatment, and research that impedes the natural development of an embryo.

Since society permits interventions of the kind mentioned on embryos and fetuses but does not permit active euthanasia (of e.g. severely handicapped newborns), homicide or harmful experiments on living human beings, society clearly does not equate the embryo/fetus with the born person in this respect. The same requirements of care and protection are not made. However you look at it, induced abortion is and remains a termination of a future life. Therefore, the child to be aborted cannot have the same set of values as the born person, whose euthanasia is not justified and legitimized under any circumstances.

These considerations do not mean that the embryo does not have moral status. The fertilized egg is the germ of a human being and must therefore be treated with care and respect. But this does not imply that the protection involved here is of the same kind as the protection requirement due to the born person.

Others are of the opinion that absolute moral status arises on fertilization, and that the same entitlement to protection exists vis-à-vis embryos as for born people. Can an embryo and a fetus be attributed varying moral status? Is it possible that the

embryo has the highest degree of entitlement to protection; that the normal, healthy fetus, which can be aborted, has the lowest degree; and that after the 12<sup>th</sup> week of pregnancy it again achieves the highest degree?

While it is argued here that the early embryo does not have the same moral status as the born person, it is only natural to ask whether, and when, the fetus achieves this status. There is no unequivocal answer to this, since moral status must be regarded as increasing from fertilization onwards. This was voiced in the debate that took place around so-called late abortions, prompted by some midwives considering it unethical to abort fetuses that have reached a stage of development equivalent to premature children, whose survival involves pulling out all the stops. Those same midwives had no ethical qualms about having a hand in induced abortions before the 12<sup>th</sup> week, but ascribed to late fetuses moral status corresponding to that of premature children, finding it ethically unacceptable to perform late abortions. Danish parliament took this view as a basis when legislating to set an upper time-limit on the performance of induced abortion.

Thus there are a number of laws that describe and delimit the way in which embryos and fetuses can be treated. Fertilized eggs obtained by "test tube fertilization" may be frozen for two years and must then be destroyed unless used to achieve a pregnancy; normal fetuses may be aborted before the end of the 12<sup>th</sup> week, and induced abortions may not be carried out after week 22. In other words, there is mounting protection of the fetus during the course of pregnancy.

Taken individually—these laws can be claimed to serve specific purposes: to give childless people the chance to achieve pregnancy; to prevent social, mental and other problems associated with unwanted pregnancies; and to lay down a limit after which a fetus, ethically speaking, is comparable with the born child. It can also be asserted that the existing legislation cannot therefore be used to make generalizations about the moral status of the embryo. But here it needs to be remembered that these laws are based on in-depth ethical considerations, where the harm caused is weighed against the benefit achieved.

A similar consideration must hold good, for example, in the case of using embryonic stem cells to prevent and cure serious disorders. These can be obtained from eggs left over from IVF-treatment or produced by therapeutic cloning. Although there is no evidence that embryonic stem cells will be able to be used in the treatment of disease, it is a theoretical possibility. Since surplus fertilized eggs may only be stored for a limited time, after which they must be destroyed, it can only be seen as beneficial to use these eggs for experiments with a view to treating disease, rather than destroying them. On the other hand, putting fertilized eggs to such use could be argued to be of no benefit to the couple that donated the eggs; but such a line of argument reflects an egoism at odds with our culture, which emphasizes helping people in distress as a mainstay—particularly when the moral status of the embryo cannot be held up alongside that of the born person, as set out above. Conversely, it must be acknowledged that the use of embryonic stem cells obviously has to be conditional on the approval of the couple whose eggs and sperm have brought about the formation of the surplus fertilized egg.

It must also be a condition that a surplus fertilized egg used for purposes other than achieving pregnancy—for example, stem cell research—must not be placed in a womb, just as it must be considered unacceptable to use an embryo for research purposes once it has been implanted in the womb.

The production of fertilized eggs by IVF or cloning is done in the laboratory outside a woman's body, and such eggs cannot be ascribed the moral status of a born person unless deposited in a womb, since they will never be capable of developing into a full-term child in that case. But this does not justify undertaking in vitro fertilization for the purpose of manufacturing embryonic stem cells, as the procedure required for women cannot be considered acceptable for the purpose mentioned. Similar reservations will not be present in the case of therapeutic cloning

## 2<sup>nd</sup> VIEWPOINT

The interpretation of Section 1, as mentioned in Chapter 1, shows that “the intent of the wording was to establish that the Council of Ethics should base its operations on the premiss that not being a human life is not, in any ethical or legal respect, an argument in favour of unrestricted freedom of action vis-à-vis the fertilized human egg”. As will be known, the Council of Ethics was formed as a consequence of it having become possible to perform fertilization artificially, i.e. fertilization outside the woman’s body (“test tube fertilization”), and then place the fertilized egg (the embryo) into the womb. So even back then, the interpretation quoted had a bearing on “freedom of action” vis-à-vis embryos, given that the techniques may entail handling embryos in many different ways (using cryogenic storage in some cases) as well as surplus embryos often being destroyed as part of these techniques.

Using embryonic stem cells will necessarily mean destroying embryos.<sup>3</sup> If there is an opportunity to obtain knowledge about severe disorders in humans and there proves to be genuine scope for treating disease using embryonic stem cells, there will once again be grounds for considering what liberties can be permitted in dealing with embryos. And such considerations must naturally be taken in the light of whatever moral status the embryo is deemed to have.

### THE EMBRYO’S MORAL STATUS

The fertilized egg is formed by the fusion of egg and sperm cells, thus creating the germ of new life (though thanks to new technology, the germ of new life may possibly arise through cloning also, as previously mentioned). Deliberations take account of the embryo’s potential to become a person under the right conditions (including being placed in a womb). On the other hand, that does not mean that an embryo up to six days old is a person. The use of such an early embryo for research or therapy is not, therefore, a commodification of a *person* and hence not a violation of a *person* either. Consequently, the moral status of the embryo must increase from the time of fertilization, through pregnancy and up to the viable-child stage, as does the mother’s awareness that she is expecting a child.

Many, therefore, will stress that although fertilization means that life is beginning, it does not mean that it has materialized. The opportunity of life as such does not arise until conception in the sense of “reception” in the womb takes place. Admittedly, the embryo already has its unique attributes (its genetic individuality), and it has a controlling influence on the mother’s body, but the converse is also true. Actually, we do not know that much about the information a fetus receives from the mother during pregnancy. So there may well be a biological basis for regarding a fetus as having different status during pregnancy too.

Rather than biological aspects, however, many people consider that deliberations on the moral status of the embryo should include the power of popular imagination associated with pregnancy and motherhood. Placing emphasis on the point at which motherhood begins will allow a more powerful defence to be conducted for the completed pregnancy, whereas a one-sided reading of life linked to the fertilized egg prior to its take-up in the womb is not as easily embodied in the popular consciousness. In this consciousness, ascribing the same value to the embryo as to the child being expected will be more difficult.

### THE ETHICAL DILEMMA

Consideration needs to be given to the ethical defensibility of exploring and using stem cells from the early embryo. The knowledge obtained can form the basis for understanding pathological mechanisms and treating disease, or the stem cells may possibly be used in their own right to treat disease. This needs to be weighed against the moral status of the embryo and hence its protection-worthiness.

Some insist on the absolute moral status of the fetus from the moment of fertilization, but can nevertheless accept—just like those who regard the embryo’s moral status as an increasing variable—that it is a case of resolving an ethical dilemma: Can the “benefit” achieved by acknowledging disease mechanisms, and the potential for disease management that may result from it, outweigh the “evil” of having to destroy embryos? Or, to put it briefly: Can the protection-worthiness of the early embryo be weighed against the substantial advantages of exploring and using its stem cells?

### RESTRICTIONS ON FREEDOM OF ACTION IN DEALING WITH EMBRYOS

It is considered necessary to introduce some restrictions on the freedom of action with regard to what may be done with embryos. In other words, the choice in the ethical dilemma at hand must be accompanied by some constraint/licence, for example disallowing the creation of embryos for the purpose of including them in research, a stipulation equivalent to the European Bioethics Convention (see 4th background chapter). This must also apply to embryos formed by cloning. Instead, research into so-called surplus embryos from in vitro fertilization can be permitted, based on the view that such embryos are going to be destroyed anyway. Under the law, this research authorization/restriction is already applicable to research into enhancing actual fertilization techniques. In addition, it might be suggested that embryos more than six days old must not be

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<sup>3</sup> If so-called stem cell lines capable of being reproduced “endlessly” can be formed, exploratory efforts can presumably concentrate on these stem cells, thus eliminating the need to destroy additional numbers of embryos.

made the subject of research. The reason for this is that, after this juncture—on the 7<sup>th</sup> to 10<sup>th</sup> day, as a rule—the embryo can be assimilated, as mentioned, and can “take hold” in the womb, i.e. actual pregnancy (motherhood) begins—on the road to the birth of the viable child.<sup>4</sup>

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<sup>4</sup> This might possibly be reflected in the language by talking of “fertilized eggs” up to and including the 6<sup>th</sup> day, and thereafter of “embryos”. This distinction has not been adopted above, however.

### 3<sup>rd</sup> VIEWPOINT

#### WHY IS LIFE ENTITLED TO PROTECTION?

It is a fundamental condition that people have to benefit from the world in order to be able to live in it; yet at the same time sharp lines have to be drawn up to define the way in which the world may be exploited, and to what extent. The historical experience, for example, is that a world in which other people and nature as a whole are rashly utilized and exploited leads to the most brutal and cruel society and life. We need only think of the 20<sup>th</sup> century's ruthless exploitation and obliteration of other people in the service of a so-called higher cause to immediately comprehend the need to cushion life—human life in particular—with wide-ranging protective measures. On top of this, in a more philosophical sense, comes the realization that without the other person we ourselves are bereft of our chance to enter into character as something essentially different. Without the existence of the others and the other in the world, we would become like kings without land.

The conclusion, therefore, is yes, we must act in the world, but we always act subject to judgment. Some will feel that actions are always their own reward, then, simply because we live in a world where "things interconnect". Others will feel that we act subject to judgment because there is ultimately a personal reckoning that will have to be balanced. Whatever one's take on this question, though, the fact of the matter is that, in theory, the expression "acting subject to judgment" means that in collating our rules to live by and our codes of ethics, we might wish at all times to maintain the principle that all life has a right to our unbounded care. In practice, however, it means that we have no choice but to gradate that care. However illogical it may seem, then, we are forced to operate with the reality that there are different parts of the world that solicit different degrees of care from us; for instance, plants less than animals, animals less than people, and perhaps—this is the question here—early embryos less than fully developed human beings? And that question becomes pressing as researchers and companies wish to make use of early embryos for purposes including the development of new methods of treatment.

In order to adopt a positive standpoint on this development, however, it seems necessary to be able to argue that an early embryo cannot yet be deemed a person. In practice, this is done by attempting to pinpoint a particular moment in time when the transition from being an embryo to being a person takes place. When does the new human life really come about?, we ask, in order to enable us to distinguish.

#### WHEN IS THERE HUMAN LIFE, AND WHAT MORAL STATUS SHOULD IT BE ASCRIBED?

Meanwhile, the answer to this question has been rendered impossible—because, logically speaking, a further fundamental condition is that any precise indication of time is always arbitrary. From experience and from a biological point of view, we simply have no way of knowing when exactly life begins—an aspect that comes clearly to the fore in the 1st background chapter of this debate outline, where it is stated that the time of fertilization is located within a window of twenty hours. The conclusion is obvious, of course: We have no way of knowing when it takes place. At most we can experience it retrospectively, i.e. see in the rear-view mirror that something new has happened at some point in time.

But that also means that the entire time—from fertilization to conception—becomes one borderland.

People have always had a hesitant and cautious approach to such frontier zones. Frontier zones cannot be travelled without falling under their sway. The point, after all, is that we do not know what will happen, or when it will happen. So frontier zones are always brimming with ambiguities, i.e. things that can be interpreted in one of two ways.

In the olden days, for example, such frontier zones lay in the transition between cultivated and uncultivated land; or in the twilight zone between day and night. This is also why the Ancients thought they were precisely the regions or time zones where trolls and elf-maidens got up to their antics. It was here that people were spellbound and enchanted, here that children turned into changelings and here that youthful swains were seduced. So popular experience also had it that special care and vigilance were called for at that particular hour or there on the edge of the moors. We are still travelling frontier zones today, and here too experience is needed. Rationality is simply too narrow a basis on which to act. Quite simply, a natural-science approach is not enough to be able to grasp this multiplicity of meaning, because the urge of natural science is precisely to reduce such complexity.

The brief initial spell between fertilization (the rapturous instant) and conception (embedding in the womb) is one such frontier region. The point here, then, is for all of us to exercise extra attentiveness, reducing our speed and laying down rigid rules as to what is and is not allowed as well as displaying the necessary deference in such matters.

#### THE WOMAN'S RIGHT TO SELF-DETERMINATION

The embryo's moral status of having equality with a child cannot in any way be challenged. Any other view can only be said to be absurd. The essential thing, however, is not what status the embryo has but who in a given situation has the right to decide the question of when and whether, in a particular frontier zone, there is a fully-developed—fertilized and conceived—embryo.

It seems altogether crucial here to stress that, ultimately, only the woman can have the right to dispose over herself and her own body as well as the little unborn child's chances of existence; that, because she volunteers her body for the purpose, the woman also has the supreme and full power of life and death; but also that the issue is just as much about her not being able to forego that right, i.e. sell, assign or in any other way permanently surrender it. Even a surplus egg that is destroyed is still "hers". And likewise, an aborted fetus must be traceable back to a cemetery, not a freezer. Such a view will also bring with it a heartfelt respect for the fact that many women—particularly those dependent on assisted reproduction techniques—naturally enough surround the eggs fertilized very early on as well as the whole of the initial implantation phase with profound dreams, feelings and hopes. "It's a strange time", to quote the words of one woman and man. A strange time in the sense of a remarkable time, a weird and wonderful time.

So another implication of such a view is that a particular team of researchers, based solely on the strength of the woman's unsolicited consent given to an independent body (and with the permission of the scientific ethical committee system), would be allowed to research on her, in her, in the vital processes of her body and those of the embryo, during this brief frontier period. But commercially, no one can end up owning the results of these research projects, e.g. stem cell lines. They remain an inseparable part of her body for ever. And the point of this research can never be anything other than to help her or other women along the road to motherhood.

In the final instance, though, it is also about giving the woman the opportunity to travel freely through that frontier zone without granting amnesty in the process to all those ravenous looks being sent her way by "trolls and kings of the moors", eyeing up her, her body and the germ of a new life. Or to put it another way: life begins when the woman feels life, i.e. feels pregnant; when the new child craves her bodily attention. That happens at an unspecified point in time, but often very early on. Depriving her of the opportunity to control it herself is the same as failing to show consideration for the central part played by motherhood in understanding it. At the same time, it is tantamount to robbing her of the right to determine herself when her life and her body take such a decisive turn.

#### **THE GREAT IN THE SMALL**

The challenge—retaining the considerate perspective—has become increasingly difficult, however, because to an ever increasing extent modern technology is severing the natural and obvious link between woman and fetus. Admittedly, with the intercession of technology, it has become possible to help women have their children in instances where natural embedding has not been able to take place so easily. One side-effect of this, however, is that what used to be covert and private has now become overt and therefore manipulable. Yet inherent in this increased visibility is not merely the germ of a commodification process of the woman's body. It also involves a potential diminution of the process as well as the role of the fetus and the mother. Becoming pregnant is being reduced to a matter of the right scientific technique—a perspective that does not take kindly to being bogged down in sentimental notions of surplus embryos, stem cell harvesting and so on. For that is when the trolls emerge from the tumuluses and the elf-kings prepare for a feast—there's a killing to be made! In other words: society's very own radical line of thought is too easily permeated by technologized brutalization. This impacts not only on the individual little embryo, and hence the child, but also on our whole model and philosophy of social engineering.

The challenge is twofold, then: To protect the little embryo and its mother, but also to protect our society from the brutalization that follows from living in a world that allows itself to be reduced to sheer scientific and biological processes.

#### 4<sup>th</sup> VIEWPOINT ETHICS, NOT LAW

It is not unusual for law and ethics to be confounded and for arguments to be based on the more or less declared precondition that what is legal is also ethically acceptable. On closer examination, this is by no means the case, of course. While the task of the legislation is to align as closely as possible with fundamental ethical values, it is not the task of these values to adapt to the legislation, which might change tomorrow if political will were so inclined. Representative democracy rests on ethical understanding—not the other way around.

Current legislation may provide an illustration of an ethical standard, but it is not ethically normative per se. This can also be seen from the fact that the substance of one law in force is not necessarily consistent with the substance of another in ethical terms. The oft-heard argument that "if abortion on demand is available up to the 12<sup>th</sup> week, there is no justification for laying down limits as to what can be done with embryos and fetuses before that time-limit" thus overlooks the fact that, long after the adoption of the Danish Abortion Act, parliament passed *and* retained rules of law that categorically do not sanction doing absolutely anything in relation to embryos and fetuses.

Based on this understanding of the relationship between legislation and ethics, then, it should be attempted to justify the moral status of the embryo not by referring to current rules of law but in the light of basic values. This also applies, incidentally, to Section 1 of the Act on the Danish Council of Ethics. This section is primarily a set of precepts governing the Council's activities, but as perceived at the time of its enactment, it contains—as mentioned in Chapter 1—no specific position on the moral status of the embryo apart from establishing that its status *after* fertilization must be different to *before*.

#### WHAT IS THE ETHICAL REASONING FOR PROTECTING HUMAN LIFE?

If it were otherwise a defensible argument, theoretically there would be nothing to stop one claiming that this new human life had indeed come about, but it was not felt that it should be respected and protected at the time. This is precisely why the components that go to make up the essence and basis of the individual's views have to be analysed.

If, as in this 4<sup>th</sup> viewpoint, one adopts the outlook that human life must be respected from fertilization, it is not sufficient to note that a human life has arisen as a result of fertilization. That is one of the crucial premisses of the view, of course, but some independent account must also be given of why human life lays claim to respect and protection at all.

If human life is entitled to protection, and if human life comes about on fertilization, then it follows that human life is entitled to protection from fertilization.

But is there a convincing argument to substantiate that human life is even entitled to protection?

This fundamentally ethical question suddenly turns out to be far trickier to grapple with—for how can it actually be proved?

Maybe it will suddenly turn out that the one thing we all go round assuming, i.e. that killing others is wrong, cannot be proved at all. The fact that the converse cannot be proved either may be of some fleeting consolation ...

The truth is that we are faced with a so-called axiom: a basic assumption that cannot be proved but is generally accepted—possibly because a basic assumption with the opposite tenor would be entirely unacceptable. Just imagine if the reverse were true, that human life ought not to be protected *prima facie* ...

A basic tenet that human life must be protected and cannot just be euthanized is therefore something that we collectively need to take as a basis.

But despite not being able to demand proof to support this precondition, we should feel free to insist on some sort of explanation if certain people think that human life *should* be protected, only not all the time, or not under any circumstances. Or not at any cost—or whatever. There is an imperative need here for a convincing argument that a situation is so different and such a departure from the norm as to allow the basic tenet of respect for life to be overridden. The burden of proof rests squarely with the one wishing to waive respect for life in a given situation—not the one wishing to protect it.

It is no more ethically acceptable to sacrifice the life of embryos to gain such benefits than it would be to take the liberty of weighing protection of a child's life against the possibility of achieving substantial benefits in some field. It is ethically unacceptable because neither biology nor ethical deliberations provide scope for flagging up relevant differences between embryos, fetuses, fully-developed children and complete human beings that might warrant such discrimination.

From the point of view presented here, no tenable argument of any kind appears to have been adduced for regarding an early embryo as having any less claim to protection of its life than a later fetus or born child. The fact that others may have some exceptional interest in securing the benefits that result from flouting the need to protect a fetal or embryonic life does not, of



course, supply an ethical rationale for doing so. If that were the case, it could then be argued at will that regard for the preservation of human life should yield to others' interest in achieving some benefit—as, for instance, in the case of a pharmaceutical company arguing that it wanted permission to destroy embryos in order to research into their stem cells, because the company would otherwise lose out on a vital segment of business.

And indeed, in the debate, there are visible efforts to try and adapt ethical reasoning to the research-related, therapeutic and commercial interests that happen to be foremost at the time. So it often becomes a case of an ethics of legitimization, poised to take the next step whenever called upon to do so, and to gradate respect for human life to make it fit in with new spheres of interest.

### **SUMMARY**

Developments to date sound an admonitory note: The technology that started out with health service initiatives to help the infertile have children has gradually evolved through egg sorting and the production of designer and spare-parts babies to the stem cell production and cloning of the present—collectively destroying a sizable quantity of embryos. In the process, we have seen the onset of mounting commodification and instrumentalization of human life, which seems to bring with it a repression of the common respect for human life on which we have no choice but to build our society.

In the current public debate on fetal stem cell research, there are clearly visible tendencies towards a weakening of the sense of sanctity of human life. Endeavours are afoot to brush off the burden of proof from those wishing to abandon the protection of human life in order to benefit themselves and others onto those wishing to defend life from commodification and exploitation. But if this gradually opens the way for increasingly allowing the end to justify the means, the consequences for our culture as a whole will be fatal.

As has been shown, this point of view revolves mainly around the considered outcome of our society gradually playing down its respect for human life in order to secure different benefits, including those of a strictly material nature. This concern can be—and actually is—shared by people without respect to culture and religion. But although this view of things need not be rooted in any religious faith, merely in a general concern for respect for the inviolability of human life, the view is often—and readily—associated with the Christian faith's view of man having been created by God, in His image, with the notion of mankind's special status as part of the Creation and the idea that man was ordained to rule over all living things in a responsible fashion.

## 1<sup>st</sup> background chapter

### Biological development of the embryo during full-term pregnancy

SEXUAL REPRODUCTION (unlike cloning, which is asexual reproduction) naturally enough requires the two sexes to form egg and sperm cells, respectively. Fertilization of a human egg is then made possible by hormones initiating the process of an immature egg from a woman's ovary maturing and becoming capable of being fertilized. The egg contains half the genetic material in 23 chromosomes. The mature egg is released from the ovary during ovulation and moves through the fallopian or Fallopian tube, where it is receptive to fertilization for about 20 hours.

Actual fertilization takes place in several phases. Many physiological processes are involved, which partly explains why different scientific sources adopt different views of the number of phases in fertilization, depending on the processes whose inclusion they emphasize. Some include ovulation in the fertilization process, for instance, whereas others do not. Some think that a fertilized egg is a zygote as soon as the sperm cell has entered the egg; others that the fertilized egg cannot be called a zygote until the male and female pronucleus has been formed, or the two pronuclei have fused. For a lay person, all this can be impossible to take in and difficult to see the relevance of, considering the sequential nature of the process, which is enacted within the space of just over 24 hours. For the researchers involved, however, there are considerable differences, which can account for different positions on the issue of the moment human life begins.

The following outline describes the process leading up to the final fertilization in *three phases*.<sup>5</sup>

In the initial phase of fertilization, a sperm cell attaches itself to the exterior of the membrane that envelops the egg. Like the egg, the sperm cell has 23 chromosomes. The membrane causes the sperm cell to release an enzyme so that it can pass through the membrane into the fluid located between the membrane and the egg. The first phase of fertilization is now complete.

In fact, several sperm cells often manage to forge their way through the membrane, but one of them will be the first to cling firmly to the egg membrane. When that happens, fusion of the egg and sperm cell begins. The egg membrane assimilates the sperm cell, as it were. First, the sperm cell swims intact into the cytoplasm of the egg, but after a few minutes the tail of the sperm cell and the membrane surrounding the head of the sperm cell will begin to degrade, and the second phase of fertilization is complete.

For the first day, the fertilized egg lives with the genetic material from the father and the mother separate in so-called pronuclei. These divide once and fuse, thereby forming an embryo with the collective genetic material in 23 pairs of chromosomes. Only after this is the third and final phase of fertilization complete.<sup>6</sup> By this time, a full 24 hours will have elapsed since the sperm cell attached itself to the membrane surrounding the egg.

#### DAY 2-6

At the start of the 2nd day, approx. 30 hours after the commingling of egg and sperm, the embryo has two cells. These divide into four approximately 40 hours after fertilization. The cells are not yet differentiated, but can all turn into any type of cell: blood cell, skin cell, nerve cell. Only when the embryo (about three days after fertilization) contains 16 cells does differentiation begin, at which point some cells will develop into the actual embryo while others (the outer ones) will become the placenta and fetal membrane, which is designed to protect the growing embryo.

Cell division continues as the embryo moves down through the Fallopian tube, reaching the womb on the 5th day.

#### DAY 7-13

On about the 7<sup>th</sup> or 8<sup>th</sup> day after fertilization, the membrane surrounding the egg bursts and the embryo breaks loose and latches onto the mucous membrane of the womb. This is the lead-up to implantation. The embryo, which has so far travelled freely in the woman's Fallopian tube or womb, now makes contact with her blood supply and sends out signals that trigger

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<sup>5</sup> As described in, amongst others, Lee M. Silver in *Remaking Eden. Cloning and Beyond in a Brave New World*. Avon Books, 1997.

<sup>6</sup> Based on the description by Silver, p. 38: "What actually happens is that the chromosomes in the two pronuclei duplicate themselves separately and then copies from each come together inside the actual nuclei formed *after* the actual cell division. It is within each of the two nuclei present in the two-cell embryo that a complete set of forty-six human chromosomes commingle for the first time".

hormonal changes in the woman's body, so that the embryo can begin its growth and development. The innermost cells of the embryo are still undifferentiated and the embryo can still divide into more parts, each of which can become a complete fetus. On around the 10<sup>th</sup> day after fertilization, implantation is complete.

### **WEEK 3-5**

On the 13<sup>th</sup> or 14<sup>th</sup> day after fertilization, the first differentiation takes place in the middle of the embryo. Only now can it be seen which cells will become the fetus (these were once indistinguishable from the cells destined to become the placenta). At the same time, the neural groove develops, later becoming the spinal cord/vertebral column. This is described as an important development in all contexts because from now on, the embryo cannot divide and multiply. The 15-day-old embryo must become one child or nothing.

This is followed by very rapid development, called organ formation (organogenesis).

The neural plate begins to take shape on the 18<sup>th</sup> day. The heart begins to beat and circulate blood on the 22<sup>nd</sup> day. The entire central nervous system has been formed by the 26<sup>th</sup> day. On the 26<sup>th</sup> and 28<sup>th</sup> days, you can begin to see the rudiments of arms and legs. At the same time you can see the initial outlines of eyes and ears, and finally it is at this point that the brain starts to develop.

In week 5 the embryo is approx. 5-8 mm long.

### **WEEK 6-14**

During the 6<sup>th</sup>-8<sup>th</sup> weeks, the embryo will look like a miniature human being, with arms, legs, fingers, toes, eyes, ears and nose, and it is due to these external characteristics that the embryo is referred to as a fetus from the 8<sup>th</sup> week. After the 12<sup>th</sup> week, the inside of the fetus also looks like the inside of a full-term human being. All major organs are present, but not yet working. From the 8<sup>th</sup> week, the development of the fetus consists basically of growth and maturation of the organs and systems formed prior to that.

The fetus is 28-30 mm long in week 8. In weeks 13 to 16, it is 5-8 cm long.

### **AFTER WEEK 14**

16 weeks after fertilization, the fetus's face has developed so that it is now possible to distinguish one fetus from another.

In the weeks that follow, the fetus will have an increasing chance of surviving outside the mother's body, though it is seldom viable before the 22<sup>nd</sup> week.

In weeks 17-20, the fetus is 15-19 cm long. In weeks 21-24, it is 20-23 cm long and in weeks 25-28, 24-27 cm long. After 28 weeks, the terminology is no longer that of an abortion, but of a birth, for which reason a child must be buried if stillborn after this time.

40 weeks after fertilization is the anticipated time of birth.

A number of phases in fetal development can thus be summarized as follows:

- Conclusion of the first fertilization phase, in which the sperm cell has attached itself to the outside of the membrane surrounding the egg
- The point during the second fertilization phase when the egg assimilates the sperm cell, and hence transitions to being a fertilized egg cell
- Conclusion of the third fertilization phase in which genetic material from egg and sperm has fused
- The beginning of implantation, i.e. 7<sup>th</sup> or 8<sup>th</sup> day after fertilization
- Completion of implantation on approx. 10<sup>th</sup> day, when the embryo has made contact with the woman's body
- 13<sup>th</sup>-14<sup>th</sup> day, when the first differentiation of cells takes place
- Formation of the neural groove, similarly on the 14<sup>th</sup> day, after which the embryo can no longer divide and multiply into more embryos than there already are
- The point at which the fetus is thought to be able to feel pain—possibly in the 6<sup>th</sup>-7<sup>th</sup> week
- 8<sup>th</sup> week, when the embryo undergoes the transition to being considered a fetus
- Week 22, when the fetus is viable outside the mother's body
- Weeks 24-26, when the cerebral cortex is functioning. This development forms the basis for consciousness
  - At birth

## 2<sup>nd</sup> background chapter

# Philosophical deliberations on the moral status of the embryo

### WHAT IS MORAL STATUS?

Not all organisms or things can be on the receiving end of ethical obligations. Only very few will think that a potato plant ought to be shown the consideration of not being dug up, thereby discontinuing its growth. Potatoes or other plants are not something most people feel we are ethically obligated to. If they merit being treated in a particular way for ethical reasons, it is not out of consideration for the individual plant; it is due to other considerations, for instance regard for the environment or starving people who could have benefited from a meal.

It's different with animals. Most people will presumably feel that animals should not be subjected to undue suffering. The individual animal has certain welfare interests that humans are obliged to heed to some extent, for ethical reasons, e.g. in connection with livestock farming. It is not alright for individual animal owners to treat their animals at their own convenience and discretion. The individual animal is entitled to decent treatment, even if it does ultimately get slaughtered.

In a philosophical context, the difference referred to between plants and animals is described in such a way that plants do not have moral status, whereas higher animals *do* have a kind of moral status. If an individual has *moral status*, it initially denotes that one can have *obligations* towards it, i.e. that ethically defined reasons exist for showing it consideration. When making an ethical evaluation concerning an individual with moral status, therefore, the consideration to be shown to the specific individual must always be taken on board.

So if an individual has moral status, ethical reasons exist for showing it consideration. Yet it does not follow from the concept that the same type of consideration necessarily has to be shown towards two individuals from different groups, although both individuals have moral status. The individuals may be embraced by such ethics in different ways. Most people are bound to think that this is true of people and animals, as people generally have to be shown greater consideration than an animal. The situation can be described thus: people have a *higher moral status* than animals, i.e. a person generally has to be shown more consideration than an animal. The rationale behind this state of affairs is normally that people's attributes are fundamentally different to animals', and that this difference has a bearing on the ethics. For example, it can be stated that people, by contrast with animals, are self-aware creatures who relate to their own future, making it more problematic to intervene in their self-fulfilment.<sup>7</sup> For a large part of the discussion on moral status, incidentally, the point is precisely whether groups of individuals can be said to have differences in attributes considered so ethically relevant that individuals from two different groups have to be regarded as having differing moral status.

The above definition of the moral status concept is in keeping with the one normally given in the literature on the subject.<sup>8</sup> But it is essential to realize that the definition is not entirely compatible with *all* views of what actually constitutes ethics. This is primarily due to the definition being based on an understanding of ethics that contains certain individualistic components. Based on this definition, then, obligations are something one has towards specific individuals and are motivated by the attributes possessed by the individual. But if, instead, for example, obligations are held to stem from the indebtedness and commitment that one ethical player has in relation to another person or animal, the understanding of ethics linked to the stated definition of the moral status concept is deficient, at best. In that case, obligations originate from concrete relations, not from traits in the individual.

### MORAL STATUS OF THE EMBRYO

An essential question in connection with many of the technologies that have been or are being developed in the field of health is, what moral status do embryos have? How that question is answered is of great importance to the way a number of treatment options and research projects are to be assessed in ethical terms. If, for example, an embryo is regarded as having the same moral status as an adult person, it seems unacceptable on the face of it to develop and use that embryo for research or treatment, as the destruction of an embryo can only be regarded as killing. If, on the other hand, the embryo is regarded as having no moral status at all, in principle there is no ethical objection to using it for practically anything at all.

### THE CONSERVATIVE POSITION

What is called *the conservative position* will be taken as a starting point for discussing some of the highlights of recent decades' philosophical discussions on the embryo's moral status. Let it be said immediately that this is by no means a

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<sup>7</sup> See, for instance, Peter Singer, *Practical Ethics*, Cambridge University Press, 1993.

<sup>8</sup> For corresponding definitions, see e.g. Mary Anne Warren, *Moral Status*, Oxford University Press, 1997; Bonnie Steinbock, *Life Before Birth*, Oxford University Press, 1992; or Karsten K. Jensen & Svend Andersen (ed.), *Bioetik* [Bioethics], Rosinante, 1999.

discussion that has been concluded. On the contrary, it seems to be an issue where reaching a consensus will be tough. This is partly to do with the fact that none of the possible opinions can provide an exhaustive and non-conflicting rationale for the moral status of the embryo.

The gist of *the conservative position* is that a human individual achieves full moral status from and including fertilization, so that for the purposes of ethical evaluation no distinction should be made between the embryo and the fully developed person. As mentioned, any form of embryonic destruction therefore has to be regarded as killing.

The view is normally justified with two interconnected lines of reasoning. Firstly, it is stated that, for purely biological reasons, the fertilized egg alone must be regarded as a human being, since it contains all the information needed to allow the completion of development into an adult individual. Qualitatively speaking, the fertilized egg is not supplied with any new information in the course of development, as the fertilized egg already contains the 23 pairs of chromosomes recurring in all the cells of the adult individual (compare the 1st background chapter). In that sense, then, the fertilized egg is a self-developing entity, capable of spontaneously forming all the organs and tissues an adult human is made up of.

The second assumption of the conservative position is that none of the changes that take place during the development from fertilized egg to adult person are sufficient to justify any change in the individual's moral status, as none of the individual developments can meaningfully be said not to have involved a human being proper *before* development occurred—but they do so *now*, now that the change has set in. The assumption is not, of course, that no development takes place. Rather, the idea is that development takes place continuously, and that no single developmental step is ethically significant in the sense that it marks the transition from non-personhood to personhood. For this very reason, the fertilized egg must necessarily be assigned full moral status even at fertilization. There is no argument that it is supposed to be any less of a person at that point than later on in the developmental process, at least not in any relevant sense.

The conservative position has been described very briefly here, but it can be amplified with more detailed analyses of why particular developments cannot warrant a change in the view of the embryo's or the fetus's moral status. For example, adherents of the view will typically argue that it makes no difference whether or not the fetus is viable outside the woman's womb. Granted, the non-viability of the fetus does make it dependent on the woman in terms of its continued survival. But for adherents of the view, this does not mean that the fetus cannot be regarded as an entity with an independent existence that has moral status independent of the mother. Dependency per se, then, has no bearing on the moral status assumed by the fetus. Conversely, it can impose certain special obligations on the woman, because the fetus is exceptionally vulnerable.

The conservative position is open to criticism in many different ways, and some of the most substantial critiques are set out below. At the same time, carrying on from this, the central counter-positions that have evolved over recent decades are presented. These counter-positions are consistently less critical in relation to using embryos for research and treatment than the conservative position.

### **CRITIQUE OF THE CONSERVATIVE POSITION**

*Critique of speciesism*<sup>9</sup>: Discussions on moral status took a new twist during the 1980s, when a number of debaters pointed out that, historically speaking, partly *depriving* a group of its moral status had been used as an effective means of suppression, vis-à-vis women and ethnic minorities, amongst others. Most people today regard such a form of suppression as an ideologically determined instrument of force, but according to some of the debaters the first assumption in the conservative position, i.e. that being a human being per se grants you a licence to enjoy a high moral status, is open to similar criticism. Thus some considered the assumption to be just as groundless as racism:

Racists violate the principle of equality by giving greater weight to the interests of members of their own race when there is a clash between their interests and the interests of those of another race. (...) Similarly those I would call 'speciesists' give greater weight to the interests of members of their own species when there is a clash between their interests and the interests of those of another species.<sup>10</sup>

According to the adherents of this view, therefore, it cannot be taken as a basic given that an individual person, by virtue of his or her membership of *Homo Sapiens*, has a particular moral status. This must be determined in some other way, for example by evaluating the ethically relevant attributes possessed by the members of individual species. In keeping with this objection, two different versions of the actual admission criteria for the moral status stakes are described below.

### **THE CONCEPT OF INTERESTS AS A PREREQUISITE TO MORAL STATUS**

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<sup>9</sup> The term *speciesism* denotes that one species accords itself special standing in relation to other species.

<sup>10</sup> Peter Singer, *Practical Ethics*, Cambridge University Press, 1993, p. 58.

*The concept of interests as a prerequisite to moral status:* According to this position, a minimum condition for an individual to have moral status is that he or she can have interests. For adherents of this view, therefore, things, plants or lower animals have no moral status, whereas higher animals and humans normally have at least some moral status.

The basis of the view is that the obligations issuing from an individual having moral status are, by definition, obligations towards that particular individual. So if an individual has to be accorded consideration on account of obligations to people other than the actual individual, it is not the individual being shown consideration that has moral status. Instead, the obligations are rooted in another individual's moral status. In this case, the aforementioned individual can be said to have *derivative* moral status. A possible example might be having to give the neighbour's plants a good watering while he is away on holiday, which is not done out of consideration for the *plants*. Such 'consideration' for the plants is derived from the respect for the neighbour's desire to keep the plants alive and one's consequent sense of duty to water them.<sup>11</sup>

If an individual can only have moral status when consideration has to be shown to the individual him/herself, moral status is blatantly dependent on the concept of interests, according to adherents of this view. For why should consideration be accorded an individual who has no interests? After all, it makes no difference to such an individual how it is treated. For example, it makes no odds to the potato plant itself whether or not it is dug up. It has nothing to lose, as it were, despite being the target of the action.

The fact that the way they are treated is a matter of indifference to some creatures ties in closely, according to adherents of this position, with the fact that these creatures have absolutely no sort of mental experience and are therefore not in possession of consciousness. The minimum requirement for having interests, then, is having mental experiences; but according to proponents of the position, creatures with consciousness also have interests, because mental experiences can be either pleasant or agonizing. For instance, a dog has an interest in avoiding pain, and it is precisely the ability to have different types of consciousness-related experience that gives a dog a certain moral status. To the dog, the way it is treated is not of no consequence.

In its most radical reading, the concept of interests results in embryos having no moral status at all, at least not before they have developed the ability to feel pain. Prior to this point, how they are treated is of no importance to *them*, so as a basic premiss, using them for research or treatment is a straightforward issue. In this radical reading, however, the embryo's status achieved by virtue of its ability to have mental experiences—pain, for example—should not be exaggerated. At this early point in its development, the consciousness of the embryo is no more developed than that of most animals, and its moral status is therefore correspondingly low. According to advocates of the radical point of view, this applies for a lengthy period of its development. Indeed, the Australian philosopher Peter Singer has even put forward the view that it is consideration for the parents most of all that makes killing small children more problematic than killing animals:

Infants are sentient beings who are neither rational nor self-conscious. So if we turn to consider the infants in themselves, independently of the attitudes of their parents, since their species is not relevant to their moral status, the principles that govern the wrongness of killing nonhuman animals who are sentient but not rational or self-conscious must apply here too.<sup>12</sup>

The view is provocative in the extreme, and some of the objections that can be levelled at it will be set out below. Before that, however, one particular view of the qualifying criteria for *full* moral status must be expounded.

## THE THEORY OF PERSONHOOD AND MORAL STATUS

*The theory of personhood and moral status:* The theory of personhood and moral status takes due note that humans cannot be accorded special status just because they belong to a particular species. But adherents of the theory nevertheless argue that humans actually *do* have special status owing to the attributes that go hand in hand with being a human being in the sense of being *a person*. According to the theory, then, persons have several ethically significant attributes or aptitudes that no other known beings have. One of these attributes is *self-awareness*, which among other things enables a person to relate to his or her own mortality, including a fear of death and a wish to carry on living for as long as possible. On the basis of that self-awareness it is also possible for a person to have *forward-looking life plans*, i.e. plans and projects that the person intends to realize in the future, that engender future desires and ambitions. Finally, persons also have *rationality*, which enables them to build their existence around self-elected values, including moral values. For that reason, person's interests are far more complicated and subtly differentiated than is the case for animals, which are primarily interested in being in a pleasurable or pleasant state and in avoiding pain and other discomfort.

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<sup>11</sup> The correlation between the treatment of embryos and forms of derivative moral status is discussed later on in the chapter. See Carson Strong: "The Moral Status of Preembryos, Embryos, Fetuses, and Infants", *Journal of Medicine and Philosophy* 22:457-478, 1997, for a more detailed description of the concept of *derivative moral status*.

<sup>12</sup> Peter Singer, *Practical Ethics*, Cambridge University Press, 1993, p. 183.

Adherents of the theory of personhood and moral status will say that the presence in a person of the attributes described may be grounds for that person having a different, higher status than, say, animals. Such attributes, quite simply, make it imperative to show persons greater consideration. For instance, killing persons is more problematic because they have forward-looking objectives and aspirations. There is also reason to respect a person's self-determination, whereas this is not the case for animals in the same sense. For most people, being able to live their lives in keeping with values they themselves can vouch for is a proviso for a successful life.

Whether the theory of personhood and moral status has any bearing on the moral status of embryos is a matter of some controversy. One opinion is that the theory of personhood and moral status is of no significance to the embryo's moral status because the embryo is not a person in any relevant sense at all. An embryo thus has neither self-awareness, forward-looking objectives nor anything that can be described as rational capacity. If an embryo does have moral status, then, it is (based on this consideration), not on its being a person. In that case, it must be down to other factors.

Another opinion on the link between the theory of personhood and moral status and the embryo's moral status is that the potential for becoming a person is not without significance for the moral status of the embryo. Thus some will claim that the embryo actually *does* have the same moral status as a person purely by virtue of this potential. The fact that the embryo even belongs to the category of beings with the *natural predisposition* to develop self-awareness, forward-looking life plans and rationality is considered sufficient per se to assign it the same moral status as the fully developed individual.

The validity of this so-called *potentiality argument* is highly controversial. Some take the view that it is completely invalid because the potential per se is not an ethically relevant attribute of the embryo. For example, John Harris states the following:

(...) the bare fact that something will become X (even if it will inevitably become X, which is far from being the case with the fertilised egg and the adult human being) is not a good reason for treating it now as if it were in fact X. we will all inevitably die, but that is, I suppose, an inadequate reason for treating us now as if we were dead.<sup>13</sup>

According to John Harris, therefore, a person can only achieve the moral status associated with personhood when he or she has actually developed the distinguishing features of a person.

A position intermediate to the two preceding views is that the embryo has a certain moral status since it represents the starting point for complete development into a fully developed individual and in that sense should be regarded *as* a person. On the other hand, though, it does not have the same status and value as a fully developed person. For this reason, it does not have the same entitlement to protection as an adult individual either. At minimum, then, the embryo is entitled to be treated with a certain respect, but what this entails is debatable. One possible view is that, in some cases, displaying the requisite respect is feasible even if the embryo is used for research, say, and is therefore ultimately destroyed. That respect must merely be demonstrated in other ways than preserving the embryo's life—for example, by avoiding the destruction of more embryos than necessary or by discarding them in a way that acknowledges their status.<sup>14</sup> In that sense, *how* the embryo is treated is never of no consequence. Destroying embryos, for example, must never be dismissed as a trivial matter. Depriving the embryo of the possibility to develop further into a person is never unproblematic, as early human life has moral status and value too.

## THE GRADUALIST VIEW

*The gradualist view:* The intermediate position described leads neatly on to what is called the gradualist view. According to this view, there is no unequivocal answer to when, in the development from fertilized egg to fully developed person, a human individual attains valid moral status. Instead, fetal development must be regarded as a process in which the individual achieves ever greater moral value and status by virtue of the transformations that take place along the way. Some will feel that the incremental growth in moral status progresses as a continuous or linear process. Others will maintain that some developments are particularly crucial to the accretion of moral status, making it a stepped or graduated increase. Relevant developments might be those described above, i.e. the embryo's initial development of the ability to have mental experiences along the way, then rationality, self-awareness and the ability to have forward-looking life plans.

Other developments that might also be attributed importance in terms of increasing growth in moral status might be, say, the embedding of the fertilized egg in the womb, the formation of the neural groove, the viability of the fetus outside of the womb or the birth of the child.

The implication of the gradualist view of the embryo's moral status is that, initially, the ethical acceptability of using the embryo for research or treatment in a given setting will often be an open question. This is because a number of the ethical principles that need to be observed with various degrees of unconditionality when fully developed individuals are involved are

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<sup>13</sup> John Harris: *The Value of Life*, Routledge, 1985, p. 11.

<sup>14</sup> See e.g. Meyer & Nelson (2001).

not of the same absolute nature with embryos. In that case, whether the principle must be observed depends, firstly, on how great a moral status the embryo is considered to have at that particular point in time and, secondly, on whether the benefits achievable from using the embryo are so great that, from an ethical standpoint too, they can be said to outstrip consideration for the embryo. For the gradualist view, then, it will be more a case of *weighing up* different ethical considerations, though it is often difficult to detail how such considerations should be balanced. It would be like comparing apples and pears. An example might be the balancing a gradualist needs to do when considering a stance on abortion. On the one hand, abortion is militated against by the disregard involved for the principle of the inviolability of human life. However, this is not a definitive argument for opposing abortion, as the principle need not be observed unconditionally in a given situation. On the other hand, consideration for the woman and the woman's self-determination advocates accepting abortion, especially if the woman is in a situation where she will find it hard to care for the child, whatever happens. Taking the gradualist view as a basis, there is no immediate way of saying how the considerations mentioned should be balanced relative to one another. All that can be said with any certainty is that performing abortion becomes more problematic, the older and more developed the embryo or fetus.

### DERIVATIVE MORAL STATUS

As shown by the preceding, there is no consensus as to whether the embryo has moral status solely by virtue of its potential to become a fully developed person. But it should be mentioned that the embryo's potential to become a fully developed person can also be given as a reason for ascribing it *derivative* moral status. A key argument in this context is that virtually no one actually carries out their ethical actions based on detailed reflection about specific features of a given situation that might warrant a particular action. Ethical actions, by contrast, are performed in the vast majority of cases because they are in harmony with a very loosely formulated ethical principle, such as the principle of the sanctity of human life or the principle of respect for the dignity of man. However, it is not the individual himself who invents or develops such principles. Instead, those principles are ingrained in the culture and together form a kind of shared ethical code, which members of the given culture refer to and use as the basis for their ethical deliberations and actions.

If ethical actions are performed principally on the basis of collective and highly generalized ethical principles, it can be argued that such principles as well as the ethical code as a whole may eventually be undermined by departing from the existing principles on essential points. Departing from them in odd situations renders them less absolute and hence open to interpretation and finessing, which may ultimately erode their serviceability and rob them of their authority. One might claim that this is precisely what happens if the embryo is deprived of moral status, for to do so is to embark upon a path of eroding the aforementioned principles of the inviolability of human life and respect for human dignity, precisely because their general applicability is denied. The next thing, then, might be to deny the mentally retarded, and ultimately children, their moral status etc. The more pervasive undermining of such principles that might result from such a process is an argument in favour of ascribing embryos a certain moral status at all events—only in that case, it would be *derivative* moral status. Based on this way of thinking, status would be attributed in order to safeguard fundamental principles whose existence represents a *sine qua non* if our democracy and our ordinary dealings with one another are to be allowed to evolve in an ethically acceptable fashion in the longer term as well.

In the above argument, the scope for preserving certain ethical principles constitutes the primary reason for attributing moral status to the embryo; so it is not the embryo's *attributes* that constitute the most essential reason for doing so. A number of other arguments of the same *type* can be advanced, i.e. arguments in which the embryo's attributes do not represent the only or the most essential reason for attributing moral status. A concise presentation is given below of the social roles argument, which is also one such argument.

### SOCIAL ROLES

*The social roles argument:* The social roles argument involves a given individual having moral status not just by virtue of their inherent attributes. They also achieve at least part of that status by entering into *relations* with others who envelop the individual with sympathy and solicitude, and acknowledge the social role they play. More often than not, a condition of this acknowledgement will be that it involves a *mutual* relationship, in which both parties play a role and display a certain regard for each other. But it need not be an *equal* relationship in which the parties give equal amounts: it may perfectly well be a relationship between an adult and a child or a human being and a pet. But the nature of the relationship, of course, is not without bearing on the moral status in which the association results. So the child has a higher moral status than the pet because this is where the degree of bonding and reciprocity is, or may potentially become, greatest.

On the basis of the social roles argument, then, one possible point of reference with regard to moral status is the close relations based on care and sympathy. But it is essential to note that the view does not deny the possibility that moral status can be attributed through a kind of analogous conclusion, in which another individual's *potential* for entering into a relationship forms the basis for such attribution. Consequently, the view does not rule out the possibility of attributing to everyone a certain minimum moral status by virtue of this potential alone.



The most obvious thing is to interpret the social roles argument so as to lead on to a gradualist view of the embryo's moral status. This ties in with the way the embryo is normally viewed with increasing sympathy and solicitude as it develops, partly because it becomes integral to the woman's future plans and self-knowledge. In addition, it becomes increasingly capable of taking on a sort of social role in which it responds to the woman's actions—to start with, for example, by kicking or rotating. At the same time, the embryo can be assumed to have a comparatively high moral status even to begin with, given its potential for developing relationships and for bonding. However, it should be noted that the moral status of the embryo is not altogether clear from the social roles argument—partly because all women do not enjoy the same rapport with embryos. Whether a particular embryo has lower moral status than most other embryos, if not enveloped by sympathy or integral to the woman's future plans, is therefore an open question.

### UTILITARIANISM

To round off the discussion on moral status, it should be mentioned that not all ethical theories assure the individual of being treated respectfully or considerately, even where the individual enjoys a certain moral status predicated on the theory. This applies to the *utilitarian* theory, in particular, which briefly says that the correct action in ethical terms is the one that produces the best consequences overall, i.e. generates most quality of life or benefit for those involved. On the basis of the theory it is perfectly fair to speak of an embryo having or being able to have a kind of derivative moral status. Firstly, it *does* have a derivative moral status because it has the opportunity to develop into a person with a successful life and a resultantly high quality of life, which speaks in favour of showing it consideration and safeguarding its developmental potential; and secondly, the embryo *can* have a derivative moral status because others can have an interest in consideration being shown for it. For example, the parenting couple may have a desire to have children or they may prefer a fertilized egg left over from assisted reproduction therapy not to be used for research even if they do not wish to make use of it themselves.

But although an embryo can have derivative moral status in the ways outlined, against the backdrop of utilitarian theory it is always an open question whether one has obligations towards it and, if so, which? This is due to the need, whatever happens, to treat the embryo in the way that brings about the best consequences, *seen from an overall perspective*. If a parenting couple, for example, judges that having another child will have major adverse consequences for the rest of the family, on the basis of utilitarian theory there is nothing to stop them opting to terminate the woman's pregnancy by an abortion. On the contrary, based on the theory, they are actually and arguably *duty-bound* to do so in some cases. By the same token, based on the theory, there would be no problem with a parenting couple having more eggs fertilized during a course of treatment than they wished to use, if the purpose of doing so was to donate eggs for useful research. Again, working from the theory, they might arguably be duty-bound to do so in some cases, if anything. For utilitarianism, after all, an ethics-of-action standard will always depend on whether the action has good or bad consequences from an overall perspective.

The utilitarian theory is just one of many possible examples of how the concept of *moral status* cannot stand in isolation. It generally has to be understood within the framework of a more overarching ethical theory. Although everyone acknowledges that an individual has full moral status, then, this rarely wraps up the ethical discussion. In many cases an ensuing question will be what specific obligations the individual's moral status gives rise to in a particular hands-on situation.

## 3<sup>rd</sup> background chapter

# Description of three religions' views on the beginning of human life and the moral status of the embryo

AS PREVIOUSLY SHOWN in this report, a knowledge of embryology is not sufficient to produce agreement on answers to the questions of when human life begins and what moral status an embryo or fetus has. Similarly, the background article on the contribution that different schools of philosophical thought have made to answering those questions clearly demonstrated that the philosophers cannot “deliver the goods” either. It may not be all that surprising, therefore, that many people are turning towards religions and their answers. But here again, the search for consensus will be in vain. Different religions have different religiously and existentially grounded reasons (sometimes combined with biological reasons) for attributing moral status to an embryo at a particular point in time.

A more detailed account will be given below of three mainstream religions' views on the questions of the beginning of human life and the moral status of the embryo. The three religions chosen are Christianity, Judaism and Islam. By way of introduction it should be stressed that it is obviously not possible to describe the big religions' attitudes to the questions of the beginning of human life and the moral status of the embryo both concisely and exhaustively. Within all faiths, points of view clash in an ongoing theological debate. The points of view exemplified below are representative of many believers within the given faith community, but not of the sum total of believing Christians, Jews and Muslims—nor of Christianity, Judaism and Islam as such. In reality, within each individual religion, different convictions can be seen concerning the time at which human life begins and the moral status of the embryo.

However, it is essential to realize that not every conviction is necessarily theologically motivated. Those grounded in theology form the focus of the present chapter.

## RELIGIOUSLY BASED DEFINITIONS OF THE BEGINNING OF HUMAN LIFE

### CHRISTIANITY

Today there are more than 25,000 Christian churches and religious denominations and over 2 billion people who define themselves as Christians in one way or another. It is not possible to refer to an unambiguous Christian creed, therefore, but certainly to a fundamental shared faith and doctrinal elements common to a number of religious denominations.

The Roman-Catholic church, with its 1 billion members, is the largest faith community in the world. It is also the Christian faith community that has dealt in greatest depth with the question of the beginning of life, and with many of the derived bioethical issues, such as reproductive and therapeutic cloning. For centuries, the Pope's mission has been to clarify ethical norms within the framework of a complex interaction with the Catholic bishops. This practice bears witness to the fact that the Catholic Church is a hierarchically structured organization, where the Pope's mission is to present church dogma against this backdrop.

According to Catholic doctrine on faith and morality, the answer is simple: life begins on conception and innocent life is sacred. The church's so-called doctrinal congregation, a body that assists the Pope, sent out a document in 1987 entitled *Donum Vitae* ("The Gift of Life"). This reproduces the doctrinal answers to various questions connected with the beginning of life, stating that

The human being is to be respected and treated as a person from the moment of conception; and therefore from that same moment, his rights as a person must be recognized, the foremost of which is every innocent human being's inviolable right to life.<sup>15</sup>

In concrete terms, induced abortion is considered a sin from this point of view. The same applies to research on embryos, which requires the demise of the embryo. The doctrine is rooted in the fact that God created man. Man was created in God's image and his life is therefore sacred:

From the moment of conception, the life of every human being is to be respected in an absolute way because man is the only creature on earth that God has 'wished for himself' and the spiritual soul of

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<sup>15</sup> *Donum Vitae*, section I, 1.

each man is 'directly created' by God; his whole being bears the image of the Creator. Human life is sacred because, from the outset, it involves 'the creative action of God' and it remains forever in a special relationship with the Creator, who is its sole end.<sup>16</sup>

Similarly authoritative depictions of Catholic dogma will be found in the "Catechism of the Catholic Church" (1995) and in encyclical letters, papal briefs and dicta from all popes in recent times.

This theological view places the Catholic Church on a par with other Christian communities, which are also of the persuasion that life begins on conception and that an embryo is a person with the same right to life as the born child. For example, the American Southern Baptist Convention, which very succinctly phrases it thus: "Human embryos are the tiniest of human beings".<sup>17</sup>

Just as in other Christian religious communities, specialist theological debate also rages in the Catholic Church, with points of view clashing between different schools and opinions. More specifically, this debate hinges on the degree to which it is permissible or not to trade off respect for the unborn life against other considerations. For example, can regard for the sick, who may possibly be helped by research on embryos, weigh so heavily as to make it permissible to carry out such research, even though it calls for embryos to be destroyed? The debate also revolves around the actual question of when an incipient human life achieves full human status, i.e. the question of the embryo's moral status, the answers to which vary among Catholic theologians.

The specialist theological debate, which embraces views both pro and contra, has not led to any change in the doctrine of the Catholic Church, however, which continues to confirm the understanding reported above and presented by the Second Vatican Council (a synod in the mid-sixties), amongst others.

When it comes to the way in which one billion Catholics practise their faith, however, we are bound to find great variation in the extent to which the church's doctrine feeds through to the actions of the individual. In that respect, conditions within the Catholic Church scarcely differ from those in effect for other religious denominations and religions, which is to say that there can be considerable differences between the doctrine preached and the life lived. Part of the specialist theological debate within the Catholic Church reported above can be viewed as an attempt, in a balancing act between the doctrine preached and the life lived, to subject church teachings to re-interpretation in order to make them meaningful for new generations of believers in a world of new technological possibilities<sup>18</sup>.

### THE LUTHERAN POSITION

The Lutheran Church has no dogma—the church's overall articles of faith—in the same way as the Catholic Church. A Lutheran does not refer to dogma in his or her arguments, and there are no specific scriptural passages to point to where fetuses are referred to and God has revealed Himself. According to the Lutheran version of Christianity, the only way in which God has revealed Himself on ethical issues is the absolute requirement that we must cherish life. But God has revealed nothing about *how* to honour this absolute requirement. We have to figure that one out for ourselves, says the Lutheran. It is the individual's own free agency and responsibility to work out how best to fulfil the absolute requirement of love of life.

This view is rooted in the Reformation, when there was a revolt against the Church of Rome and the Catholic institutions, which the reformers felt had usurped unduly great power by acting as the intermediary between the individual and God. For the Lutheran, the *personal* relationship with God is the crux of his or her faith, and with that personalized relationship with God there also follows a personalized Christian ethics.

Dr Jakob Wolf, DTheol, Associate Professor at the University of Copenhagen, might serve as a working example of a Christian of the Lutheran persuasion. Wolf delivered a paper for the Council of Ethics on the moral status of the embryo, in which he expressed the view that an embryo has definitive moral status because it is vulnerable and exposed. Having moral status, according to Wolf, means that the embryo exacts an ethical requirement that we must take care of it and endeavour to make it prosper and flourish, in other words that we must not exploit or kill it, but on the contrary, preserve and promote its life.

According to Wolf, life begins at conception. He thinks that any other watershed for life (the different biologically founded delineations, for instance) are completely arbitrary and determined by considerations other than regard for the embryo. Thus far, then, Wolf is in tune with Catholic teachings. But there the agreement stops, with Wolf stating that just because something is ethically forbidden does not mean we cannot do it anyway. An ethical action is not an action that unconsciously abides by a

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<sup>16</sup> Donum Vitae, Introduction, section 5.

<sup>17</sup> Source: Religion and Ethics News Weekly, <http://www.pbs.org/wnet/religionandethics/week448/perspectives.html>.

<sup>18</sup> Jensen, Tim and Mikael Rothstein. *Etikken og religionerne* [The Ethics and The Religions]. Aschehoug, 1998:9-10.

rule, but an action which the individual himself vouches for in a responsible manner. So it is quite possible to be of the conviction that research on embryos is a violation of the embryo's rights yet still espouse such research on the grounds of other interests that are weighted more heavily, such as regard for those sick people who might benefit from the research results.

This outlook, according to Wolf, is not the result of a piece of utilitarian calculation (where the ethical is defined by the result of the calculation), but conversely the result of adopting a position on the basic conflict in life: that, in order to survive, we need to use nature and one another as instrumentalities. There is a radical difference between saying that it is ethically correct to perform a particular action and saying that it is ethically wrong but we do so nevertheless for other reasons, mindful that we find ourselves in a basic conflict or, to put it another way: that we have respect for the absolute ethical demand that emanates from life itself, as we come to the simultaneous and painful realization that we fall short of it.

The basic conflict that warrants such deliberation of different regards and interests is due, according to Wolf, to God having created and appointed the world thus. There is a fundamental condition, therefore, a *conditio humana*, at work, which man cannot dispense with.

Within the Lutheran Church the theologians debate amongst themselves, too, since it is up to each individual Lutheran to decide how best to honour the requirement to cherish life, as already mentioned. One example of a different interpretation of this requirement is Dr Kurt Christensen, DTheol, senior associate professor at the Lutheran School of Theology in Aarhus, Denmark. Christensen aligns with the teachings of the Catholic Church by dint of his conviction that the fertilized egg is a potential human being which, as such, is covered by the Fifth Commandment—the ban on killing—and must be offered absolute protection.

Christensen's conviction (by contrast with Wolf's) is that if we want to preserve our culture on a humanist-Christian foundation, we cannot live with the protection of human worth as a constant issue, but must at all times defend respect for human worth and the absolute inviolability of human life.<sup>19</sup>

The conviction that life begins on conception and that an ethical demand emanates from life is shared by the Christian positions mentioned. But this conviction does not assume the same consequence for those Catholics who think, respectively, that the life just conceived has the status of a person, and those who think that the life just conceived does not have the full status of a person. Nor does this conviction take on the same consequence for a Lutheran like Wolf, who thinks that the life just conceived has the status of a person but that we can nevertheless violate its right to continued life, and for a Lutheran like Christensen, who thinks that human life begins on fertilization and is entitled to absolute protection. It illustrates how the Christian faith communities accommodate different interpretations of the question of the embryo's moral status—regardless of whether the foundation might be the same, i.e. that man is created in God's image and that life begins on conception. Of course, this diversity among specialist theologians reflects a corresponding diversity of convictions and ways of practising faith among the other two billion plus people who define themselves as Christians.

## JUDAISM

Judaism today is estimated to include some 14 million people. But of course this figure says nothing about the numbers living in accordance with Jewish laws and traditions. Unlike the other world religions (Christianity, for example), Judaism has not been split up into separate religious communities. The differences that exist within the Jewish community are primarily to do with different Jewish groups' varying cultural backgrounds. Dr Henri Goldstein, MA, MD and consultant, held a presentation for the Danish Council of Ethics on the Jewish view of the beginning of human life and the moral status of the embryo. Goldstein stated that the different forms taken by Jewish religion in different cultures can be explained by the concept central to Judaism, "*Dina demalchuta dina*", meaning that the law of the land is also Jewish law—that Jewish stipulations dictate that the laws in force in the country be obeyed. As a result, a more literal reading of the religious sources vies, as it were, with the stipulation about adapting to the laws of secular societies:

Jews in Ethiopia, the USA, France, Israel or South Africa have widely divergent cultural conditions, and their religion—albeit Judaism in all instances—therefore takes on a different appearance. Add to this, of course, the theological differences that manifest themselves among Jews in the same societies, e.g. in the western world. Thus there is a big difference between fundamentalist Judaism, orthodox Judaism,

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<sup>19</sup> Kurt Christensen. *Terapeutisk kloning og menneskelivets ukrænkelighed. Bidrag til en etisk begrundet stillingtagen* [Therapeutic Cloning and the Inviolability of Human Life. Contribution to an ethically founded position]. Paper held at the Danish Board of Technology's hearing on 22 November 2000 for the Danish parliament on therapeutic cloning and the use of stem cells.

traditionalist or conservative Judaism and the more modern (protestant-inspired) so-called reformed forms of Judaism, as well as predominantly secularized Judaism, which also has a part to play.<sup>20</sup>

Despite whatever theological and culturally conditioned differences there may otherwise be within Judaism, all sources available to the Council of Ethics refer to the Old Testament and the Babylonian Talmud (completed in 500 AD at the latest) when confronted with taking a stance on the question of an embryo's moral status. According to the Babylonian Talmud (Yebamot 69b), the embryo/fetus is to be regarded "as mere water" for the first 40 days after the first menstruation missed, corresponding to approximately two months after conception:

For if she is not found pregnant [On the fortieth day] she never was pregnant [And is allowed to eat *terumah* after that day also]; and if she is found pregnant [On the fortieth day], the semen until the fortieth day is only a mere fluid [And cannot be regarded as a child].<sup>21</sup>

During this period, therefore, the embryo does not have the status of a person, although it is recognized as a potential person. This potentiality makes for certain restrictions with regard to what can be permitted in relation to the fetus. As a general principle, then, abortion is not allowed, unless done to save the pregnant woman's life (or possibly to abort a severely ill fetus). The essential thing in this context, however, is that according to the Jewish persuasion human life does *not* begin on conception, and moral status is therefore attributed later on in fetal life. Precisely when the fetus assumes moral status as a person is a source of disagreement among Jewish theologians. For some, it is once the birth is underway; for others, once the child's head has emerged from the mother's womb. Regardless of these differences, the overall Jewish conviction is that there is a gradual increase in the moral status of the embryo/fetus as fetal characteristics develop during pregnancy. It is illustrative of this view of mounting moral status that if a Jewish child dies within eight days of birth, it does not trigger the same ritualized period of mourning as if the child dies after the eighth day.

The religious rationale behind the Jewish conviction is the existence of scriptural evidence: that God has revealed His true identity in the Bible, and these revelations are then discussed in the two versions of the Talmud (the Jerusalem and the Babylonian Talmuds). Thus there is a final reference, an authoritative source for the conviction that the fetus gradually assumes moral status. It rests on a divine manifestation, which has no implications as such. But again, of course, it is worth mentioning that a specialist theological debate is also taking place within the Jewish faith community; and that, consequently, there are a number of convictions about the issues concerning the beginning of human life and the moral status of the embryo. What is Jewish law and tradition, then, does not necessarily determine how the individual believer practises his or her faith.

## ISLAM

Islam is considered to include some 1 billion believers. It is not surprising, therefore, that a number of views are to be found amongst Muslims on the questions of the beginning of human life and the moral status of the embryo. For orthodox Muslims, however, the question can be answered simply with reference to an authoritative source. Imam Fatih Alev gave a presentation to the Council of Ethics on the Muslim view of the beginning of human life and the moral status of the embryo. Alev alluded to a hadith (a report from the prophet Mohammed), showing that an embryo is ensouled 120 days after conception and hence does not assume the moral status of a person until after that:

Verily, each of you is constituted in your mother's belly for forty days as a *nutfah* [seed], then becomes an '*alaqah* [a clot of congealed blood] for an equal period, then a *mudghah* [a small morsel of meat] for another equal period, then the angel is sent and he breathes the soul into it." (...) <sup>22</sup>

Alev stated that the prophet Mohammed's knowledge that the fetus is ensouled 120 days after fertilization is divine. Therefore, Muslim beliefs do not change in keeping with new, empirical knowledge (for example, knowledge of when the fetus shows signs of life). Alev highlighted the fact that the prophet Mohammed was God's messenger and that devotion to this belief prevents new interpretations.

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<sup>20</sup> In Jensen, Tim and Mikael Rothstein. *Etikken og religionerne*[The Ethics and The Religions]. Aschehoug, 1998:50. The Council of Ethics' translation.

<sup>21</sup> Yebamot 69b. The square brackets have been inserted by the Council of Ethics. The original version has footnotes containing the text that has been placed in square brackets here.

<sup>22</sup> Hadith collections of Bukhârî and Muslim (quoted from material kindly sent to the Council of Ethics by Imam Fatih Alev).

Under certain conditions, therefore, it is allowed to abort the fetus within the first 120 days of conception, just as research into embryonic stem cells is also permitted.<sup>23</sup> The Muslim Fiqh Council of North America, for example, has pronounced that embryos left over from fertility treatment may be used in research rather than being destroyed, provided that this is done within a few days of fertilization and does not involve payment for the embryos. The Fiqh Council has also stated, however, that research into generating stem cells from adults should be supported. This wish has also been voiced by the Minaret of Freedom Institution, which points out that stem cells for research purposes can be generated from umbilical cord blood.<sup>24</sup>

Despite some Muslims' rejection of the possibility of new interpretations of the Koran and the different reports from the prophet, such new interpretations do actually take place. Parts of the Muslim faith community are of the persuasion that it is up to the individual Muslim to understand and construe the Koran, and that the question of whether one is a good Muslim cannot be answered by imams or other scholars referring to interpretations of the religious texts that are "set in stone". Such question can be answered exclusively by God. These Muslims typically have different answers, for instance, to questions relating to applied ethics. It might be objected that often (unlike their more orthodox fellow believers) they do not have religion as the basis of their convictions but on the contrary a secular, perhaps biologically founded approach to bioethics, including their approach to the question of the beginning of human life and the moral status of the embryo.

### **SUMMARY**

As shown, different convictions concerning the time human life begins and the moral status of the embryo can be seen within each of the three individual religions, regardless of whether a dogma proper, an overall doctrine for the church, exists within the faith community concerned. Cutting across the religions, then, we find the three main points of view that have also been mentioned in the background article on the biological approach to the question of the beginning of human life:

1. That human life begins on conception, and that a fertilized, human egg per se has the moral status of a person (and hence the right to protection)—a moral status equal, in principle, to that of a fully developed child.
2. That it is not meaningful to talk of human life until a particular juncture during pregnancy and, by extension, that the embryo does not achieve moral status until that point in time.
3. That the embryo takes on mounting moral status as pregnancy progresses, for which reason it qualifies for a corresponding increase in the right to protection.

However, it bears repeating that each of these convictions is not necessarily theologically grounded. Within Judaism and Islam, for example, the gradualist view is expressed (and with reference to theological sources), while this is not the case within the Christian faith community. The view does exist, needless to say, among many Christians, but is not theologically motivated, for which reason it has not been mentioned in the above review.

To summarize, it can be said that looking to religions in a quest to find consensus on clear-cut and unanimous answers to the questions about the point at which human life begins and the moral status of embryos or fetuses is pointless. Disagreement prevails amongst the religions themselves as well as within each individual faith community. In the profession of his or her religion, however, the individual believer is perfectly capable of finding both unambivalent answers and a clear rationale for his or her view on the moral status of the embryo. That everyone does not profess the same view does not rob a religious interpretation of life of its relevance.

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<sup>23</sup> However, it should be mentioned that other Muslim schools of law operate with a 40-day limit on ensoulment and hence on possible intervention in fetal life.

<sup>24</sup> Personal communication from Fatih Alev, with reference to the following Internet addresses: [www.fiqhcouncil.org/articles/EmbryonicStem-CellResearch.asp](http://www.fiqhcouncil.org/articles/EmbryonicStem-CellResearch.asp) and [www.islam-online.net/english/Views/2001/08/article6.shtml](http://www.islam-online.net/english/Views/2001/08/article6.shtml).

## 4<sup>th</sup> background chapter

### International and national rules concerning embryos

THERE ARE PROVISIONS in both international and Danish regulations of significance to the embryo and the legal status of the fetus. However, neither UN policy nor the European Convention on Human Rights adopts an explicit stance on the legal position of the fetus in a way that could be said to provide clarity in the matter. On the basis of human rights regulation, therefore, nothing can be said about protection of the fetus with any certainty. The only sure thing is that the fetus's possible right to life is not absolute, since in its practice the European Convention on Human Rights has accepted the occurrence of rules allowing abortion in national legislation.

The Bioethics Convention (**Council of Europe's Convention on Human Rights and Biomedicine of 4 April 1997**) states in Article 1 that the purpose and object of the Convention is to "protect the dignity and integrity of human beings" and, in Article 2, "Primacy of the Human Being", that "The interests and welfare of the human being shall prevail over the sole interest of society or science". From the explanatory notes to the Bioethics Convention, it is clear that Article 1 deals with "everyone's right to fundamental rights and freedoms". The explanatory memorandum explains that the term "everyone" or "*toute personne*" is the same as that used in the European Convention on Human Rights, but that the expression is not defined here. With reference to the lack of a definition for the term "everyone", the explanatory memorandum states that it is left to the individual states' legislation to define the expression for the purposes of the Bioethics Convention. The expression "human being" is also used in the Convention to establish the importance of protecting "the dignity and identity of all human beings".

The Bioethics Convention cannot be said to explicitly protect the fetus either, then, but leaves it to the legislation of the individual country to define the term "everyone".

However, the Convention does contain a number of special provisions that can indirectly be said to offer protection of the embryo: Articles 13 and 14 of the Convention set out limits with regard to the interventions allowable on the human genome:

Article 13 provides that "an intervention seeking to modify the human genome may only be undertaken for preventive, diagnostic or therapeutic purposes and only if its aim is not to introduce any modification in the genome of any descendants". Article 14 determines that "the use of techniques of medically assisted procreation shall not be allowed for the purpose of choosing a future child's sex, except where serious hereditary sex-related disease is to be avoided."

The Convention's provisions on interventions on the genome and sex selection must be deemed to be not only aimed at protecting the embryo but also intended to protect the born person and future generations.

The Convention does not take a stance on whether to permit research on fetuses, leaving that to national legislation. Article 18, however, does state that where the law allows research on embryos, it shall ensure adequate protection of such embryos. Article 18 contains the important concrete regulation of research on fetuses, whereby the creation of human embryos purely for research purposes is not permitted. The Convention's provision on prohibiting the production of fetuses with a view to research is thus aimed more directly at protecting the embryo and the fetus.

The Bioethics Convention includes no provisions on cloning. **The Council of Europe therefore adopted an additional protocol on the prohibition of cloning human beings in 1998.** Article 1 of the Protocol provides that any intervention seeking to create a human being genetically identical to another human being, whether living or dead, is prohibited. The preliminary observations of the additional protocol state that **the instrumentalization of human beings through the deliberate creation of genetically identical human beings is contrary to human dignity and thus constitutes a misuse of biology and [bio-]medicine.**

#### NATIONAL LEGISLATION

Most western legislations do not voice any explicit protection of the embryo from conception. The USA, the UK and to some extent Denmark are examples of countries that permit e.g. research on embryos, subject to different protection requirements, whereas Germany, France and Norway have a particularly restrictive attitude towards the use of embryos for research purposes. Sweden and the UK allow research on early embryos, but subject to restrictions regarding ethical evaluation and consent for the research involved.

These major differences in national controls governing the application/protection of early embryos and fetuses—as expressed in the Bioethics Convention—are partly a contributory factor when it comes to the reticence of international regulatory agencies and rule-making bodies to provide regulatory initiatives in this field.

From a legal point of view, then, it is not possible to infer an unequivocal and concordant answer to the questions about the beginning of human life and the moral status of the embryo, but in general terms the majority of western legislative initiatives do not protect the embryo explicitly from conception.

### **DANISH LEGISLATION**

Danish legislation does not attribute status to the early embryo on a par with born persons, but on the other hand it is also clear from the legislation that the early embryo is not treated as a thing or an object, as there are rules safeguarding ethical positions and consent, e.g. before research on early embryos is permitted.

Danish rules on the status of the fetus, however, reflect a sort of gradualism: the Danish Act on Assisted Reproduction, with its provisions stipulating a ban on certain experiments on embryos and a ban on conducting research on human embryos developed for more than 14 days outside of the womb, reflects Denmark's advocacy of consideration for protection of the embryo. However, the Act on Assisted Reproduction does allow embryos to be destroyed, for example in connection with preimplantation diagnostics and on expiry of the cryostorage period.

As an example of Danish rules that champion considerations other than regard for the fetus, mention might be made of the Abortion Act, which permits abortion on demand of fetuses up to the 12<sup>th</sup> week. But if the abortion involves a fetus older than 12 weeks, there must be weighty health-related or social and mental reasons before abortion is permitted. Permission must be granted by a special abortion appeals board. If the fetus is viable, the scope for abortion is severely restricted, and if the fetus is born after the 28<sup>th</sup> week, or if it is born before but produces signs of life, this means that the fetus is perceived as liveborn, complete with the special legal status and rights associated with that (e.g. inheritance and succession rights).

Under Danish criminal law, it is assumed that the rules in place to safeguard against homicide only enter into effect on birth.

### **PROTECTIVE CONSIDERATIONS**

The question is, which approach to rights or protection should be adopted for the purpose of legal regulations governing embryo treatment and research? Here it is relevant to ask whether it is possible to speak of a care concept or a "right to care" in the context of the fertilized human egg and the early embryo.

In legal terms, Danish regulation operates with a concept called duty of care (Sections 250, 213 and 215 of the Danish Civil Penal Code), since the provisions of the penal code punish acts of omission (whereby failure to provide care is a punishable offence). The question is whether, for the purposes of protecting the embryo, one should refer to a right to care: that the embryo, by virtue of its potential for humanhood, is entitled to respect, care and protection.

This question then raises the issue of what is to be protected, when and how.

The international conventions and declarations rarely have anything explicit to say about this respect, care and protection, though indirectly there are examples at both international and national level of protective considerations being translated into provisions that define some direction regarding the degree of human embryo manipulation considered permissible. The additional protocol of the Bioethics Convention, on human cloning, may be an example of this, as well as the Danish rules in the Assisted Reproduction Act on a ban on experiments on fertilized, human eggs.

The question that may have to be discussed when evaluating legal protection of the embryo is whether any initiative should be taken to provide special controls defining and clarifying protective safeguards in connection with embryos to be used, and the consequences, if any, that infringing them should trigger.



# Appendix 1

## Legal regulation concerning embryos

IN CONNECTION WITH the survey of the legal position of embryos, it is relevant to look at international legislation. The following account includes examples of international and national regulation of significance to the treatment and protection of human embryos. This survey makes no inclusion of examples of fetal protection in connection with abortion and criminal law provisions to do with “fetal assault” or feticide (child destruction), attempting instead to focus on rules with a bearing on the regulation of early embryonic development in connection with fertilization in or outside the womb.

### INTERNATIONAL REGULATION

#### UN DECLARATION ON HUMAN RIGHTS, 1948

Article 3 of the UN Declaration on Human Rights establishes that everyone has the right to life.

#### UN INTERNATIONAL COVENANT ON CIVIL AND POLITICAL RIGHTS, 1966

The UN Covenant of 1966 on Civil and Political Rights has not adopted a stance on legal protection of the fetus but, like the 1948 Declaration on Human Rights, does mention that every person’s right to life shall be protected by law. (Article 6: “Every human being has the inherent right to life. This right shall be protected by law. No one shall be arbitrarily deprived of his life.”)

#### UN CONVENTION ON THE RIGHTS OF THE CHILD, 1989

The UN Children’s Convention imposes a ceiling for the protection of children up to 18 years of age but does not operate with a lower limit at which such protection comes into force. The preamble mentions that the child, by reason of his or her physical and mental immaturity, needs special safeguards and care, including ‘appropriate’ legal protection, “before as well as after birth”. See the Declaration on the Rights of the Child adopted by the UN General Assembly on 20 November 1959.

#### EUROPEAN CONVENTION ON HUMAN RIGHTS

Article 2 of the European Convention on Human Rights provides that “everyone’s right to life shall be protected by law”. Whether this provision also protects embryos and fetuses has not been properly clarified. According to Lars Adam Rehof, this question is supposed to have been discussed in connection with a case at the European Commission of Human rights. In the case, a married man considered that an abortion which his wife had had performed against his wishes constituted a violation of Article 2 of the European Convention on Human Rights. (Decisions and Reports, vol. 19, p. 244, case no. 8416/79)

#### AMERICAN CONVENTION ON HUMAN RIGHTS

The American Convention on Human Rights, which entered into force in 1978, basically protects life from fertilization onwards, cf. Article 4 of the Convention (“Every person has the right to have his life respected. This right shall be protected by law and, in general, from the moment of conception. No one shall be arbitrarily deprived of his life.” American Convention on Human Rights, O.A.S. Treaty Series No. 36, 1144 U.N.T.S. 123, entered into force on 18 July 1978).

#### COUNCIL OF EUROPE’S CONVENTION ON HUMAN RIGHTS AND BIOMEDICINE (BIOETHICS CONVENTION)

The Council of Europe’s Convention on Human Rights and Biomedicine of 4 April 1997 (The Bioethics Convention) states in Article 1 that the purpose and object of the Convention is to “protect the dignity and integrity of human beings” and in Article 2, “Primacy of the Human Being”, that “The interests and welfare of the human being shall prevail over the sole interest of society or science”. From the explanatory notes to the Bioethics Convention, it is clear that Article 1 deals with “everyone’s right to fundamental rights and freedoms”. The explanatory memorandum explains that the term “everyone” or “*toute personne*” is the same as that used in the European Convention on Human Rights, but that the expression is not defined here. With reference to the lack of a definition for the term ‘everyone’, the explanatory memorandum states that it is left to the individual states’ legislation to define the expression when applying the Bioethics Convention.

The expression “human being” is also used in the Convention to establish the importance of protecting “the dignity and identity of all human beings”. The explanatory memorandum states that “it was acknowledged that it was a generally accepted principle that human dignity and the identity of a human being had to be respected as soon as human life began”. This wording, too, contains no statement as to when the beginning of human life can be said to have taken place.

However, the Bioethics Convention does include a number of special provisions that can indirectly be said to offer protection of the embryo:

*Interventions on the human genome:* Articles 13 and 14 of the Convention set out limitations on the interventions that can be performed on the human genome: Article 13 stipulates that an “intervention seeking to modify the human genome may only be undertaken for preventive, diagnostic or therapeutic purposes and only if its aim is not to introduce any modification in the

genome of any descendants". Article 14 provides that "the use of techniques of medically assisted procreation shall not be allowed for the purpose of choosing a future child's sex, except where serious hereditary sex-related disease is to be avoided."

*Research on fetuses in vitro:* The Convention takes no stance on whether to permit research on fetuses, leaving that to national legislation. Article 18, however, does state that where the law allows research on embryos in vitro, it shall ensure adequate protection of such embryos. However, Article 18 does contain the important concrete regulation of research on fetuses, whereby the creation of human embryos purely for research purposes is not permitted.

#### **ADDITIONAL PROTOCOL TO THE BIOETHICS CONVENTION ON THE PROHIBITION ON CLONING**

The Bioethics Convention does not include any provisions on cloning. In 1998, therefore, the Council of Europe adopted an additional protocol on the prohibition on cloning human beings.

Article 1 of the Protocol provides that any intervention seeking to create a human being genetically identical to another human being, whether living or dead, is prohibited.

#### **UNESCO**

In 1996 UNESCO adopted "The Universal Declaration on the Human Genome and Human Rights" (20 December 1996).

Article 11 establishes that "Practices which are contrary to human dignity, such as reproductive cloning of human beings, shall not be permitted. States and competent international organizations are invited to cooperate in identifying such practices and in taking, at national or international level, the measures necessary to ensure that the principles set out in this Declaration are respected."

#### **NATIONAL LEGISLATION**

An attempt has been made below to show examples of different attitudes towards the question of regulating conditions affecting embryos.

#### **DENMARK**

*Act on Assisted Reproduction.*

Law on assisted reproduction in connection with medical treatment, diagnosis and research etc.

Danish Act No. 460 of 10.06.1997 regulates treatment involving medically assisted procreation techniques in Denmark performed by or under the supervision of a doctor. A number of provisions in the Act regulate treatment and research in connection with assisted reproduction. These rules are thus of importance to the way the status of the embryo is regulated in Danish legislation. The Act on Assisted Reproduction adheres to the principles of the Council of Europe's Bioethics Convention.

#### **TREATMENT**

Section 2 of the Act provides that assisted reproduction may only take place if the purpose is to combine a genetically unmodified egg cell with a genetically unmodified sperm cell.

According to Section 4, identical unfertilized or fertilized eggs must not simultaneously or subsequently be implanted in one or more women with a view to fertilization.

Section 7 stipulates that genetic investigation of a fertilized egg may be undertaken only in cases where there is a known or substantially elevated risk of the child contracting a severe hereditary disease or in order to detect or exclude a major chromosomal abnormality.

Section 8 establishes that the selection of sperm cells or fertilized eggs prior to placement in a woman's womb with a view to selecting the sex of the child may only be performed to prevent a sex-linked hereditary disorder in the child.

#### **RESEARCH**

Section 25, subs. 1 imposes a ban on certain forms of research and experimentation: research may only be undertaken if the purpose is: 1) to improve in vitro fertilization or similar techniques with a view to generating a pregnancy, 2) to improve techniques for the genetic investigation of a fertilized egg with a view to establishing whether there is any severe hereditary disorder or major chromosomal abnormality (preimplantation diagnostics).

The removal and fertilization of eggs with a view to carrying out experiments other than those mentioned in subs. 1 is not permitted.

Under Section 26, fertilized eggs may only be kept alive outside the woman's womb for a fortnight from the occurrence of fertilization. The time during which the fertilized human eggs have been frozen is not included.

Research projects under Section 25 must be approved by the scientific ethical committee system, which prior to granting approval, if at all, evaluates whether the projects have the permitted objective.

Under Section 28 the following experiments may not be performed:

- Experiments aiming to make possible the production of genetically identical human individuals
- Experiments aiming to make possible the development of a human individual in an "extraneous womb"
- Experiments aiming to make possible the production of human individuals by fusing genetically different embryos or parts of embryos before they take hold in the womb
- Experiments aiming to make possible the production of live human individuals that are hybrids, with genetic material that includes constituents of other species.

## **OTHER DANISH RULES WITH A BEARING ON THE TREATMENT OF EMBRYOS**

### *General rules on the responsibility to treat*

Apart from the special legislation in the 1997 Act on Assisted Reproduction, treatment involving assisted reproduction techniques is covered by a number of rules generally applicable to the health services and largely confined to laying down certain legal and administrative frameworks for the workings of the health services, setting out health staff training requirements, establishing accountability and supervision regulations for such staff, and furnishing rules on the duty to provide guidance, channels of appeal and compensation for injuries caused by medical treatment.

### *Danish Practice of Medicine Act*

According to the basic precept in Section 6 of the Practice of Medicine Act (Consolidation Act No. 272 of 19.04.2001 on the Practice of Medicine), a doctor is obliged "when exercising his profession ... to display care and conscientiousness".

The rules for the health services and the rules for certain forms of treatment apply to all doctors and physicians, and thus cover treatment at both public and private clinics. The guidelines, contained in "guidance notes" and some circulars, are not legally binding per se, but do have a certain significance for the interpretation and supplementation of the central provisions in the Practice of Medicine Act concerning doctors' responsibilities. If a doctor commits a gross breach of the professional wording of the guideline, therefore, he or she will typically be able to be called to account under the accountability rules of the Practice of Medicine Act.

Section 6 of the Practice of Medicine Act shows that "In the exercise of his profession, a doctor is obliged to show care and conscientiousness..." The provision implies that the doctor must abide by the standards of good medical practice valid at any time. And indeed, the doctor's responsibility and duty of care under Section 6 of the Practice of Medicine Act must also extend to a fetus inside a woman's womb. This manifests itself, for instance, when the doctor is faced with having to choose medication that will not harm the fetus when prescribing medicine for a pregnant woman. Regard for the woman's life or health or for other fetuses may warrant intervention, however. But other interventions—abortion, for example—require special authorization.

## **THE SCIENTIFIC ETHICAL COMMITTEE SYSTEM**

Trials that include experiments on embryos are covered by the Danish Act on a Scientific Ethical Committee System (Executive Order No. 69 on the Act on a Scientific Ethical Committee System and Treatment of Biomedical Research Projects of 8 January 1999). Under the Act, no experiments can be performed that involve human beings or human material as experimental subjects without the project having been approved by a scientific ethical committee.

## **ACT ON THE LEGAL STATUS OF PATIENTS**

The Danish Act on the Legal Status of Patients is equivalent to the requirement for care and conscientiousness in Section 6 of the Practice of Medicine Act, stipulating that the patient (in this case the mother, and in certain cases the couple) should be informed and give consent for the treatment or research planned to take place.

## **OTHER COUNTRIES' NATIONAL REGULATION ON EMBRYOS**

This report is based partly on the legislation of the individual countries and partly on the report by Tony McGleenan of Queen's University Belfast, UK: "The Ethical Implications of Research involving Human Embryos", published as a working paper for STOA (Scientific and Technological Options Assessment) by the European Parliament, Directorate General for Research, Directorate A, in July 2000.

## **USA**

In the USA there is no federal legislation forbidding therapeutic cloning or research on embryonic stem cells. Every year since 1995, Congress has passed a provision in the budget prohibiting public financing of research on human embryos. This means that the National Institute of Health cannot undertake/initiate research on human embryos, but such research can be conducted

freely and without control in the private sector. Here, however, it is subject to the provisions of the American Food and Drug Administration (FDA), where these apply. In August 2001 President Bush decided that public funding could now be granted for stem cell research on the 60 or so pre-existing stem cell lines, reasoning that "the life and death decision has been made". President Bush emphasized that the federal government would support research into stem cells from cord blood and adult and animal stem cells, which do not raise the same ethical dilemmas as embryonic stem cells. The federal government intended to earmark 250 million dollars for this type of research in 2001. The President appointed a council mandated to monitor stem cell research and to suggest guidelines and controls with a view to elucidating all medical and ethical consequences of such research.

In the autumn of 2002 California became the only American state to pass a law permitting research on early embryos. The law comes into force on 1 January 2003, giving women undergoing assisted reproduction therapy the opportunity to donate surplus early embryos to research, on condition that written consent is obtained. The law forbids the sale of embryos.

## **FRANCE**

Research on embryos is regulated by Act No. 94-654 of 29 July 1994. The Act lays down provisions on the donation and use of parts and products of the human body, medically assisted reproduction and prenatal diagnosis. The Act has been supplemented by decree no. 97-613 of 27 May 1997, which adds a new clause entitled "Examinations on embryos *in vitro*".

The use of assisted reproduction is restricted to cases that can remedy childlessness. Presymptomatic genetic diagnosis (PGD) is banned, except in cases where a doctor has determined that the couple is at great risk of giving birth to a child with a severe hereditary disorder that is deemed untreatable at the time of diagnosis.

Research on embryos is permitted, but can only be conducted:

- in order to directly benefit the embryo being handled, particularly with a view to increasing the odds of successful implantation
- or to contribute to enhancing the techniques for medically assisted reproduction through increased knowledge about the physiology and pathology of human propagation.

There is a time-limit of seven days for conducting research. In addition there are specific bans on: cloning, creation of hybrids or chimeras, ectogenesis or parthenogenesis, germline therapy, creation of embryos exclusively for research purposes and eugenic experimentation that might lead to the selection of human individuals.

## **UK**

In the UK, research and treatment with the aid of human embryos is regulated by the Human Fertilization and Embryology Act from 1990. Research centres and clinics handling human embryos must apply to the Human Fertilization and Embryology Authority for permission. Under the law, permission for research on human embryos can be granted for the following purposes: 1) to improve infertility treatment, 2) to increase knowledge about the causes of congenital disease, 3) to increase knowledge of the causes of abortion, 4) to develop more effective contraceptive techniques or 5) to develop methods for identifying the presence of gene or chromosome aberrations in embryos prior to implantation.

In a revised version of the Human Fertilization and Embryology Regulations Act from January 2001, access to research was expanded so that permission for research can now also be granted for research on human embryos with the purpose of 6) increasing knowledge about the development of embryos, 7) increasing knowledge about serious disease or 8) enabling any such knowledge to be applied in developing treatments for serious disease. Permission can be granted to use research techniques such as cloning in nuclear transfer, provided that the purpose of the research is one of the above. When the revised Act was passed, the House of Lords further decided to form a special committee in the House of Lords to monitor the implications of the law, including the issuing of licences. The ban on reproductive cloning still holds good, therefore.

## **GERMANY**

Research on fertilized human eggs is prohibited in Germany unless it will actually benefit the embryo or research aimed at resulting in pregnancy (*Embryonenschutzgesetz* [German Embryo Protection Act] of 13 December 1990). The Act also includes a ban on cloning.

The Act defines an embryo as: "a human oocyte that has been fertilized and has the potential to develop, from the time of the cell nuclei fusing, as well as any totipotent cell removed from an embryo and presumed capable of splitting and developing into an individual".

Removal of germ cells from dead fetuses does not fall within the Act on the Protection of Embryos, as the Act only regulates implantation in the womb. Removal of embryonic germ cells from dead fetuses is thus regarded as a legal action, but cloning of these cells would be considered contrary to the ban on cloning.

## **NORWAY**

In Norway, research into fertilized human eggs and the production of genetically identical individuals (cloning) is banned. Issues relating to the fetus are regulated in the Biotechnology Act (Act 1994-08-05 No. 56: Act on Medical Use of Biotechnology). In autumn 2002 a bill was tabled to revise the rules. The bill (Ot. prp. no. 108 2002-2002) includes proposals to extend the ban so as also to include embryonic stem cells and therapeutic cloning.

## **SWEDEN**

In Sweden, the donation of unfertilized and fertilized eggs is also forbidden. Special legislation covers fertilization outside the womb (IVF) (Act No. 711 of 14 June 1998 on Extracorporeal Fertilization).

In addition, research is regulated by Swedish Act No. 115 of 14 March 1991 on Trials or Treatment in connection with Fertilized Human Oocytes.

The 1988 Act regulates the performance of assisted reproduction. It also allows certain forms of research on human embryos. The research must be completed within 14 days of fertilization and may only take place with the consent of the couple. Any research whose purpose is to modify the embryo genetically is prohibited. As soon as the research has been completed, the embryo must be destroyed. It is forbidden to implant in the womb an embryo that has been the subject of research.

In spring 2002 a bill was tabled, paving the way to sign into law a licensing procedure for starting up research projects. It has been proposed that legislation should specify that research on stem cells and fetuses must be subject to ethical evaluation and the woman's consent before research can be permitted.

## **FINLAND**

Finland's Medical Research Act dates from 1999. The legislation covers embryo research and defines the embryo as "a living group of cells which is the result of fertilization and has not been implanted in a woman's body".

The Finnish Act establishes that research must respect the inviolability of human dignity. Chapter 3 of the Act deals with the issues involved in human embryo research. Such research can only be carried out by bodies that have permission from the national authority for medico-legal affairs. The Act stipulates a 14-day limit for research on embryos. Section 12 lays down the consent requirements that must be met before research can take place. Section 13 forbids the creation of embryos exclusively for research.

Embryos that have been used for research must not be implanted in a woman's womb.

## **SUMMARY, IMPLICATIONS AND PROSPECTS**

The great differences in national regulation governing the use/protection of early embryos and fetuses is—as expressed in the Bioethics Convention, inter alia—a contributory factor when it comes to the reticence of international regulatory agencies and rule-making bodies to provide regulatory initiatives in this field.

A further question, for example, is whether the provisions of the Bioethics Convention on interventions on the genome and sex selection and cloning are primarily intended to protect the embryo. Amongst other things, the introductory observations to the Bioethics Convention and the additional protocol on cloning show that the intention is also to protect the born person and future generations.

The USA, the UK and to some extent Denmark are examples of countries that permit e.g. research on embryos subject to different protection requirements, whereas Germany, France and Norway have a particularly restrictive attitude towards the use of embryos in connection with research.

In general terms, most western legislative initiatives do not protect the embryo explicitly from the time of conception, cf. Inger Dübeck in *Personers rettigheder – Om individets fysiske og psykiske integritet, selvbestemmelsesret og identitet* [The rights of persons—On the individual's physical and mental integrity, right of self-determination and identity], DJØF-Publishing, Copenhagen, 1997, Chapter 3.

According to Roman law, human life was reckoned from the moment the child was completely separated from the mother. The embryo was not considered a person, but part of the mother. But if the conceived infant entered the world alive, in terms of the child's legal status the child's life (for the purpose of inheritance or succession rights, for instance) was reckoned from conception, not from birth.

Under English law, fetuses are treated as having interests worthy of protection even though they are not regarded as having rights proper. Inger Dübeck advocates treating fetuses as "interest entities", awarding them a custodial parent to attend to their personal affairs and a guardian to safeguard their proprietary interests: that is to say, to act as the subject of transactions and

legal proceedings. In this connection, Inger Dübeck mentions that the French national ethics council, Comité Consultatif National d’Ethique, describes the fetus as “personne humaine potentielle” (a potential human person).

### **PROTECTIVE CONSIDERATIONS ?**

In order to establish the type of rights protection relevant for the purpose of protecting embryos, Inger Dübeck mentions that one should examine the two most recent principal trends in regulation, which concern the application of biotechnology to people and human health:

One is a rights point of view that particularly concerns self-determination as a subjective right proper. This is reflected in legal regulation, for example, which ensures patients’ right to self-determination as a subjective right.

The other is a protection point of view that relates particularly to protecting the integrity (physical, personal and mental) of disadvantaged individuals.

In order to establish the degree to which a rights point of view or a protection point of view should be adopted in connection with legal controls on embryo treatment and research, it is relevant to ask whether reference can be made to a care concept or a “right to care” in the context of the fertilized human egg and the early embryo.

In a legal sense, Danish regulation operates with a concept referred to as duty of care (Sections 250, 213 and 215 of the Civil Penal Code), as the provisions of the Code punish acts of omission (failure to provide care is a punishable offence). The question is whether, in the context of embryonic protection, one should refer to a right to care—the embryo (owing to a potential for humanhood) being entitled to respect, care and protection.

This question then raises the issue of what is to be protected, when and how.

The international conventions and declarations rarely have anything explicit to say about this respect, care and protection, though indirectly there are examples at both international and national level of protective considerations being translated into provisions that define some direction regarding the degree of human embryo manipulation considered permissible. The additional protocol of the Bioethics Convention, on human cloning, may be an example of this, as well as the Danish rules in the Assisted Reproduction Act on a ban on experiments on fertilized, human eggs.

With regard to the question of the fetus’s rights, Inger Dübeck states that there “might be good reason to apply the theory of ‘split legal personality’”. That is to say that there may be grounds for giving people rights to protect the interests of the fetus”.

The question that may have to be discussed when evaluating legal protection of the embryo is whether any initiative should be taken to provide special controls defining and clarifying where to use protective safeguards in connection with embryos, and the consequences, if any, that infringing them should trigger.

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Relevant international conventions

Relevant Danish legislation

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