PHENOMENOLOGY AND EMBRYO ETHICS

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Abstract: In this article, a phenomenological ontology concerning in vitro embryos is developed and defended, exploring the practical implications for reproductive medical technologies. This phenomenological alternative, in comparison with other positions in bioethics, firmly takes on-board the dangers of reification of human life by advancements of medical science. The in vitro embryo is clearly not a human person, but neither is it a lump of human cells, merely. The phenomenologist should consider the embryo to be a potential human person, but also acknowledge the changes in basic ontology brought about by medical technologies when producing embryos in the laboratory. In vitro embryos, however they are made, still have a significant symbolic standing that demands respect on the strength of their biological potentiality. Such a standing could be reflected in practice by limiting the use of IVF embryos to fields of research that seek cures for severe human diseases and which cannot be pursued by other means, and by forbidding the buying and selling of human embryos. Regarding the future possibilities of not only selecting but also manipulating the genes of embryos in IVF by way of CRISPR/Cas and other technologies, the phenomenological view stresses that such interventions should not move beyond de-selecting or deleting genes that carry severe risks for developing painful and debilitating diseases. Abstaining from choosing the characteristics of children-to-be beyond the measures taken to save them from considerable, unnecessary suffering is ultimately a matter of avoiding to instrumentalize the practice of procreation. In contrast to an order-and-delivery service, the relationship between parents and their children should be thought of as an empathic and dialogic relation. At stake in this relation is not only the understanding and avoidance of unnecessary suffering but

also the possibilities of human flourishing. Child-rearing should respond to the personal characteristics that a child, from birth onwards, already embodies and expresses, and continually support and guide the child's possibilities to develop these characteristics in a successful way.

Keywords: embryo ethics, phenomenology, medical technology, stem cells, personhood, IVF, CRISPR/Cas.

Introduction

A main issue for phenomenologists working within the domains of medicine and bioethics has been to point towards the dangers of objectifying the patient in the medical encounter, viewing and treating him/her as mainly, or merely a biological body. The patient is not only a specimen of a disease to be diagnosed and treated, but also a particular person experiencing an illness tied to a certain set of meaning-filled circumstances, a life world (Aho and Aho, 2008; Svenaeus, 2011). The body of the patient is not only a living body – a biological organism – but also a subjective, a feeling, an expressive, a personal lived body, which needs to be understood and brought into dialogue in the meeting with the patient (Leder, 2016; Slatman, 2014). Health care professionals should adopt a second-person perspective on the patient and his/her bodily experienced and life-world related suffering, and not merely a third- (non-) person, medical scientific perspective (Carel, 2008; Svenaeus, 2017).

This phenomenological critique of objectification in medicine could be sharpened by addressing not only the clinical encounter but also contemporary medical technologies. Assisted reproductive technologies (ARTs) connected to *in vitro* fertilization (IVF) are implemented to make pregnancies and births of healthy babies possible, but they are also changing our views on human beings as such by potentially reifying human cell lines and DNA. In this paper, I want to explore how phenomenology could be valuable in helping us to better understand what kind of objects *in vitro* embryos are, and how we should look upon the practices in which they are being used to achieve pregnancies or to do medical research.

Embryo ethics

Embryo ethics is the subfield of bioethics in which questions are raised regarding human embryos produced in the medical laboratory. What kind of objects are they and what are we allowed to do with them? Embryo-ethics questions were first raised when IVF became possible in the 1970s. Since then, through increasingly sophisticated aids of ARTs,

millions of human embryos have been produced in the laboratory. Many of them have been used in IVFs, some have been used in medical research, and a very large number are presently cryopreserved in reproductive clinics all over the world. The reason for the surplus storage is that more embryos (5–15) than the ones actually being implanted are fertilized in preparation for each IVF treatment. This is done to procure embryos of high quality and also to be able to use the surplus ones in future IVFs with the same woman or other women. Some such surplus embryos have been and are being used in medical research, if the donating couple consented to this. Presently, embryos used in research are not allowed to develop beyond the age of 14 days in the laboratory, according to an international convention (the so called two-week rule).

Pre-implantation genetic diagnosis (PGD) makes it possible to screen embryos for genetic diseases or other traits before implantation. Future reproductive medicine may also include various ways of manipulating embryo-DNA by means of CRISPR/Cas technology (Liang et al., 2015). In October 2018, the first gene-edited human beings, a twin couple called Lulu and Nana, were born in China under the auspices of medical scientist He Jiankui. The intervention was performed to make the babies resistant to HIV, but has been generally condemned for being unnecessary and dangerous (Cohen, 2019). Many researchers (and investors) fear that irresponsible use of CRISPR/Cas gene-editing could damage the reputation of the technology and slow down development.

In the future, CRISPR/Cas and other ways of deciphering and altering the genome *in vitro* might be used not only to avoid diseases but also to enhance human capabilities However, the question of what personal characteristics in addition to health (absence of diseases) will make a human life better is not only up for philosophical debate but is also very hard to answer in advance as well as out of context (Hauskeller, 2013). The reason for this is that all, or at least most, of the desirable traits suggested by enhancement enthusiasts – physical strength, intelligence, emotional stability, a long lifespan, predispositions to feel happy, and so forth – are complex traits that interact with other traits of a person in unforeseeable ways. Recent development in behavioural genetics have shown that physical and, especially, psychological traits are influenced by hundreds or even thousands of different genes that add up and interact with environment in complex ways (Plomin, 2018). It is possible to detect such genes by way of so-called genome-wide association studies of large populations, checking for the effect of candidate genes, but it remains to be seen whether this research will lead to the selection or manipulation of embryos to give birth to better humans. What may become possible in a more near future is to check for many individual genes in the DNA of embryos that together increase the risk of developing, for example, heart and coronary diseases, diabetes, cancer, depression, and other severe and common diseases.

Embryos can be produced in the laboratory not only by fertilizing an oocyte with a sperm cell, but also by the transfer of DNA from an adult cell to the nucleus of an oocyte, so-called cloning. Cloned embryos can be used not only to produce offspring, reproductive cloning, but also to produce cells used in medical research and/or for treatment, which is known as therapeutic cloning. Stem cells from embryos multiply in the laboratory to form stem cell lines and they can also be turned into various types of differentiated somatic cells by making them divide together with cells of the desired tissue type. Although the world community of scientists and ethicists has been rather unified in banning human reproductive cloning, the predicates of embryonic stem cell research have given rise to massive debate which has generated considerably different guidelines and laws in different countries. Because stem cell research holds possibilities for curing severe diseases and prolonging life for millions of people, the medical as well as economic stakes are high (Waldby and Mitchell, 2006).

Embryonic stem cells (the origin of all other types of cells in the body) may also be obtained by other means, by 'reprogramming' differentiated cells of various tissue types (skin, muscle, heart, etc.), which makes them turn 'backwards' into stem cells (so-called induced pluripotent stem cells) (OHSU, 2013). In the future, cells from an embryo may be used not only to produce differentiated somatic cells but also to obtain germ cells (ova, sperms). These two techniques in combination – a procedure that has been shown to work in experiments with mice – could change the forms of human reproduction altogether, making it possible for biological children to be reared by an individual, between same-sex couples, or in kinship constellations that involve more than two people, so-called 'multiplex parenting' (Palacios-González et al., 2014).

What do all these remarkable procedures mean for philosophical and ethical debates about the nature of human being? How do they affect our views on personhood and human interrelatedness, particularly the bonds that are created by way of reproduction? How may a phenomenologist address these developments, and in what ways does phenomenology make us better equipped to understand matters in embryo ethics? These are the questions to which I now turn.

Are embryos (potential) persons?

To start with, phenomenology could make us aware of a certain danger in allowing existential issues to become dominated by scientific models, a danger pointed at by Martin Heidegger in his critique of modern scientific technologies already in the 1950s (Aho, 2018; Heidegger, 1977). ARTs and stem-cell research may harbour the risk of instrumentalizing or even commodifying human reproduction when including the production, selection, manipulation and selling of embryos

(Cooper and Waldby, 2014). That human embryos are definitely not persons – lacking not only self-reflective abilities but also the ability to feel – does not mean that they do not deserve some kind of respect on the strength of being the kind of entities they are (Mills, 2011). The forms of respect that we arguably owe to things that are not yet persons (embryos), no longer persons (corpses), or not persons but still having a value beyond the dimension of utility (most animals, plants, or landscape formations that we treasure, etc.) are often put in terms of these things being 'sacred' or 'dignified'. This terminology does not necessarily reflect a religious attitude; it is simply a way of voicing the intuition that some things are inherently valuable even though they are not persons (Dworkin, 1994).

That embryos are destroyed in medical research need not be a problem if one does not believe that this timeline of human life involves anything significant in addition to cellular biology. The only ethical issue, if one holds such a view, would be the need to obtain informed consent from the persons who donated the cells to their being used to produce embryos to be harvested for stem cells. The extreme opposite view in embryo ethics is the view that already the first fertilized cell is taken to possess characteristics that assign it equal ethical standing to a person. Persons are generally defined as creatures possessing self-consciousness, language, memory, and an ability to plan their actions, so this is hardly a coherent view if you do not want to change the understanding of personhood altogether (DeGrazia, 2005, pp. 3–7).

A more interesting argument, often invoked in embryo ethics, claims that the first-cell stage of the embryo – needs to be protected because it is a *potential* person (Gómez-Lobo, 2004). Gametes, in contrast, do not deserve this kind of respect, since they do not possess the complete DNA of an individual human being. Gametes are not human beings; they only represent pre-stages to human being, since they have only half of the number of chromosomes necessary to make the embryo–foetus–child develop into a person. The full genetic make-up, however, so the argument goes, directs the development of the embryo from day one, if the embryo is given the opportunity to mature in its *natural* environment (meaning, the uterus of a woman).

Since embryos do not have experiences – the ability to feel is developed by the foetus around week 22 gestational time (Bellieni 2012), – there are no possibilities of finding out what it is like to be an embryo. Another way of stating this is that it is not like *anything* to exist as an embryo, there is no first-person perspective of an embryo, precisely because embryos are not persons. Nevertheless, I would like to defend the view that embryos – or, at least, some embryos (see below) – should be considered as potential persons and that this view – to my mind – is the most tenable *phenomenological* position regarding embryos (for a more elaborated argument, see Svenaeus 2017). How so? First, every human person has once *been* an embryo. We have a relationship to

human embryos through our personal history, since we have once existed as the embryo that developed into the person we now are.

Second, even though embryos do not have any first-person perspective on the world, we have a perspective *on them*, and this perspective should rather be considered as a minimal form of second-person perspective than a third- (non-) person perspective tout court. This minimal form of second-person perspective is informed by medical science, since it has been created by scientific investigations and theories, rather than by an encounter with a lived, expressive body of another person. The first everyday encounter with developing human life is not fertilization but the event that is known as quickening – when the pregnant women feels the moving presence of the foetus in her womb (around week 18 gestational time). What it means to adopt a minimal second-person perspective on the embryo needs to be further spelled out to be able to differentiate between situations in which human embryos are brought into being in different ways. This is what I intend to do below. To start out by assuming the relation to the human embryo to involve a minimal second-person point of view, and not merely a third-person, scientific point of view tout court, is intended as a way of avoiding instrumentalizing or commodifying views on human embryos.

All arguments that explore the ethical status of the embryo by way of its potentiality for personhood will have to specify *under what circumstances* and *in what context* this potentiality is supposed to hold. An embryo can develop into a person only if it is surrounded and supported in the 'natural way', which means being implanted in the uterus of a woman and provided with the appropriate support by her bodily being. This, of course, may change should we witness the development of artificial wombs such that *in vitro* embryos were able to mature into babies in them. We find a restricted version of this possibility with the nursing care in incubators of foetuses born as early as the twenty-second week of gestation. The remaining time gap between the use of incubators for present embryo research (two weeks after fertilization, meaning fourth week gestational time) and the use of incubators in neonatal care units is presently about eighteen weeks. Considering the complex biology constituting the necessary conditions for embryo and foetus growth, not to mention the ethical issues involved, the artificial womb will be hard to achieve, but such a medical scientific breakthrough may, nevertheless, be possible in the future.

It could be argued, however, that the circumstances of IVF and embryo research have already changed the natural circumstances and context of the embryo by *producing* it *in vitro*. Such a view seems particularly plausible when the embryo has been (will be) produced by means of techniques such as somatic cell nucleus transfer or induced stem cell technology, plus germ cell production (Palacios-González et al., 2014). Are such embryos the potential children of potential parents even if the parent(s) have not contributed their germ cells (but rather

their somatic cells)? Proponents of novel approaches to biological parenting will have to argue that they are, although the technologically engineered embryos do not necessarily have this potentiality *in contrast to* the potentiality to become research material.

Perhaps cloned and multiplex embryos could be considered to have the potentiality for personhood *in addition* to being a potential object of research, if they are created with a reproductive aim. In any case, to claim that the circumstances owed to these embryos is always the womb of a woman appears to be problematic, since these *types* of embryos would never have existed if medical technology had not reached its present (future) stage. In contrast, the type of embryos being fertilized in the old-fashioned way have been brought into being long before the practices of IVF and stem cell technology were introduced. Indeed, IVF is referred to as a part of *assisted* reproduction, a fact indicating that the aim was originally to support rather than change the ways of human reproduction altogether. It could equally be claimed that the current forms of maternity, birth, and neonatal care presently taking place in hospitals (with the assistance of modern technology) have developed as *supportive* functions in response to premodern birthing practices that took place in a home environment with the aid of (at best) a midwife. The original intention in changing the circumstances for birthing situations was hardly to make babies in new ways; the goal was to make pregnancy and birth less painful and safer for mothers and babies.

Before the advent of IVF in the late 1970s, the potentiality of human embryos was unproblematic, if considered. They were future children of future parents *only*, even though this potentiality was not to be realized in every case (miscarriage) and did not protect the embryo from being aborted under certain circumstances. The purpose of Judith Jarvis Thomson's classic paper of 1971, 'A Defence of Abortion', is exactly to argue that *even though* the embryo/foetus is a potential person it may rightfully be aborted if the woman who carries it views its continued life inside her as interfering with her life goals (Thomson, 2006).

When embryos began to be produced *in vitro* their potential being became more challenging, even though this was never the original intent. The standard procedure in IVF treatment, since the 1980s, has been to produce far more embryos than will ever be used in treatment. Following ovarian hyperstimulation, somewhere between five to fifteen eggs are retrieved from the woman, and these are then fertilized and screened in the laboratory. Presently, in most cases, only one or two of these embryos will be implanted. The surplus embryos are cryopreserved (deep frozen) and can be used in future treatment by the couple (woman) or for other couples (women). Since embryos may be stored only for a certain period of years – how long varies with the laws and regulations of different countries – this process has inevitably led to a large number of surplus 'waste bin' embryos. Many bioethicists claim that this surplus ought to be used for research, given

that even if they are not used they will eventually be destroyed at their expiration date.

It could be argued that rather than being an unintended surplus of IVF treatments, embryos, under the current set-up, are in fact being *produced* for research. The ethical concern is then that the surplus production of embryos for research is part of an *instrumentalizing* process that will affect our views on human life, as such, in the long run. To nurture such a concern does not equal a view of embryos as persons that are killed by the researchers in harvesting them for stem cells. The concern is not about the life or death of individual embryos but about the way medical technologies affect our everyday being-in-the-world and attitudes towards life. This concern with instrumentalization is a way of spelling out the common intuition that some things, even though they are not persons, have a dignified character that demands respect (Dworkin, 1994). In the case of embryos, this respect-commanding quality is connected to the embryo–foetus–child's potential to become a person according to its successive stages.

Embryo ethics and the instrumentalization argument

The standard reference in embryo ethics regarding worries about instrumentalization is not Heidegger's ontological critique of modern technology but Kant's moral philosophy (Mauron and Baertschi, 2004). According to Kant's categorical imperative of practical reason, no person may be treated as merely a means to an end, only as an end in herself. Embryos, however, are not persons but potential persons. Kant, for obvious reasons, did not feel any need to apply his argument to potential persons such as embryos, but if we extend it accordingly we obtain: no potential person may be treated as merely a means to an end but only as an end in her/itself.

A strict application of the categorical imperative would not only deem embryo research unethical, but would view IVF treatment as equally unethical, unless the latter were to change its procedures in such a way that no embryos would be deprived of an opportunity for implantation. However, the ethical judgement appears to hinge on the way we interpret *implantation opportunity*. The strictest interpretation will demand that every embryo that has a chance of developing into a not-too-diseased baby should be implanted. The only embryos without implantation obligation would be those that are predicted to spontaneously abort, or that will develop into babies with severe diseases.

A less strict interpretation of the Kantian dictum would interpret 'implantation opportunity' as having a *fair chance* for implantation in competition with other embryos fertilized during the same cycle of IVF treatment. However, even the less strict interpretation of the

categorical imperative would forbid cases of embryos being explicitly produced for research, and consequently, the ethical question will turn on the issue of whether surplus embryos are being produced with research intent or not (Devolder, 2015). While it could be successfully argued that no person – health care professional or parent – *purposely* fertilizes *particular* embryos for research, the system does nevertheless have the foreseeable effect of producing surplus embryos.

'The system' in this case captures the way practices of IVF and embryo research are set up in contemporary society. The phenomenological worry is consequently that embryos – and other human cells, tissues, and organs – become reduced to *pure material* used in medical research and treatment, or even to *commodities* on a market (Cooper and Waldby, 2014; Svenaeus, 2016). This worry reflects a Heideggerian sensibility rather than one derived from Kant, since the concern is about a potential change in the way we perceive and understand human life in general, not about a number of embryonic potential-person lives being lost in the process of medical research. The biopolitical critique of (late) modern medicine and society found in Michel Foucault (1990) and Giorgio Agamben (1998) belong to this tradition of phenomenological analysis. Their analyses of how human bodies are disciplined and made use of in modern prisons, schools, hospitals, and, even, concentration camps, could easily be applied to the question concerning embryo use in research labs.

A phenomenologist who has relentlessly criticized instrumentalizing tendencies in modern medicine is Hans Jonas (1984, 1987). The philosophical roots of his critique of the 'technological civilization' are clearly indebted to the philosophy of Heidegger. According to Jonas, the duty of preserving the possibility of a life worth living for future generations means not only to avoid the extinction of the human race but also to avoid turning human life into a commodity. If Jonas and Heidegger had lived long enough to pass ethical judgement on our contemporary situation, they would, I think, predictably have sided with the Kantians: embryos should never be produced for the purpose of research, and this would include the foreseeable surplus of embryos from IVF treatments (see also, Habermas, 2003). Research on stem cells, they would claim, should be limited to so-called adult stem cells, which are neither totipotent nor pluripotent, but merely multipotent, and which can be retrieved from living human research subjects after they have consented. It could perhaps be argued that induced stem cells are also non-embryonic in nature, despite their pluripotency, since they cannot give rise to an embryo in the way a fertilized, cloned, or multiplexed embryonic stem cell can.

To my mind, however, such a harsh judgement on embryo research is not the inevitable outcome of a phenomenological instrumentalization critique of the intersecting domains of IVF and stem cell research. It could be argued, from a phenomenological point of view, that the possibilities of producing embryos and stem cells in new ways in

the laboratory make the potential of the early *in vitro* embryo ambivalent. The cell cluster that constitutes the zygote-morula-blastocyst pre-embryo throughout its successive stages is about 0.1 to 0.2 millimetres in diameter and does not, at any stage, look like a living being when viewed under a microscope (not counting creatures such as amoebas or bacteria) (Devolder, 2015). The implanted and/or gastrulated embryo, in contrast, changes significantly in size and shape, soon taking on the form of a vertebrate creature measuring 1 to 2 millimetres. After four weeks it has doubled this size, and what will develop into the head and limbs become visible. Taking into account the character of the different stages that the early embryo goes through, the fourteen-day rule of embryo research appears to be an attractive alternative in determining the ethically significant beginning of human life, at least when embryos are made and kept *in vitro*.

It would be short-sighted to pretend that phenomenology can provide us with ultimate or exact answers regarding the ethically significant beginning of human life, including the ethical status of embryos in their successive developmental stages. However, phenomenology can offer viewpoints and arguments that take the person-experiential perspective into account in addition to the perspectives from science and logic. The two views on instrumentalization in the case of embryo research presented above are both consistent with a phenomenological understanding of the nature of medical technology and human reproduction.

Continuing the second alternative, I would argue that already by bringing embryo making out of the woman's body, the practice of IVF changes the ethical status of the pre-implanted, non-gastrulated embryo. The technologies used to facilitate fertilization and make embryos in new ways *in vitro* underline that we are dealing with objects of a new type: embryos brought out of the environment that previously determined their form of potential being in a one-way manner. If we want to resist the conclusion that the appropriate environment of an embryo can in some cases be a research lab rather than a woman's body, we need to abstain from the practice of IVF treatment altogether (or, at least, change it in a way that does not result in surplus embryos that will as a matter of routine be wasted or used for research). The phenomenological judgement that the *in vitro* embryo is a different type of entity than the embryo formed by fusion of egg and sperm in the Fallopian tubes of a woman does not mean that we can treat *in vitro* embryos like any kind of stock, using them to make soap, for instance (the analogy with Auschwitz is deliberate). *In vitro* embryos, however they are made, still have a significant *symbolic* standing that demands respect on the strength of their biological potentiality (compare my remarks on the dignity and protection-worthiness of non-person entities above). Such a standing could be reflected in practice by limiting the use of IVF embryos to fields of research that seek cures for severe human diseases and which cannot be pursued by other means (in the

way experiments with animals should be regulated) and by forbidding the buying and selling of human embryos.

The ethical standing of the embryo will become more powerful and demanding as it develops beyond the stage of implantation and gastrulation and is in place in the uterus of a woman. To perform research on aborted embryos or to use parts of them in order to produce stem cells (or other medically valuable outcomes) may still be ethically admissible, depending on the exact circumstances. However, to produce them for this purpose, or to use abortion as a form of contraception by arguing that it produces valuable research material as a side effect, is not compatible with the phenomenological concern about instrumentalization in any interpretation. For the phenomenologist, the difference in ethical standing between the *in vitro* embryo, which has not been implanted or gastrulated, and the embryo that has been implanted or gastrulated would be contingent on the different developmental stages of an embryo, thus making the embryo more and more subject-like in addition to object-like when we perceive and judge its being. As the embryo–foetus develops in the womb, it will increasingly demand ethical attention as *a particular* human being in the process of possibly becoming a person, not just as an instance of human life in general.

Designing babies

An issue that has been much discussed in bioethics is the future possibilities of designing babies *in vitro*, not only by scanning for disease risks (PGD), but also by selecting for or manipulating genes coding for various *characteristics* to be enhanced (height, beauty, intelligence, emotional stability, a long life, etc.) (Agar, 2013; DeGrazia, 2012; Habermas, 2003; Hauskeller, 2013; Malmqvist, 2014; Parens, 2015). The two main arguments in favour of such procedures are that it is the quality of life of the child-to-be that matters, not whether he or she will become diseased or not (Harris, 2007); and that it is the right of the future parents to design their offspring *in vitro* as they find fit, in the same way that they improve their children's characteristics by rearing and schooling them after they have been born (Robertson, 2003).

The first of these arguments is interesting from the point of view of a phenomenology of suffering and flourishing (Svenaeus, 2014). Disease, as such, does not appear to be the morally relevant issue in genetic diagnosis but, rather, the embodied, world-opening, life-shaping moods that the future children will end up living in. However, even if scanning for severe diseases *in vitro* or in early pregnancy is done in order to avoid future suffering rather than disease (defect, disorder) per se, the phenomenological argument does not open to enhancement on similar grounds. The responsibility to avoid having children that we know will have a considerably more painful and alienated life

than normal is not a responsibility to have children with genes that we think will make them considerably more happy, with greater flourishing, than normal. We are responsible for offering our children the possibility to develop and flourish that would be precluded by severe diseases and defects, but we are hardly responsible for making their genome ultimately fit to prosper and succeed in this world. And even if we had such a strange parental responsibility, somehow trumping all other responsibilities we have to other, future human beings of this world, the project as such is fraught with difficulties in determining which lives are 'better' than normal (Hauskeller, 2013, pp. 185–186). To flourish in life, from a phenomenological point of view, does not mean merely to feel happy, but to realize one's life in a way that identifies and brings about one's core life values (Taylor, 1989). And how could the parents know in advance what the future child will be like, what she will treasure and find meaningful in *her* particular life?

This issue brings us to the second main argument of the enhancement enthusiasts, namely, that since parents currently have the right – in liberal democratic societies – to influence or even shape the core life values of their children by way of upbringing, why should they not enjoy the right to do so by way of genetic enhancement? The phenomenologist, however, has access to a way of thinking about human being – as embodied, narratively extended being-in-the-world – that can explain why the two situations of determining in advance by way of genes and attempting to influence and shape by way of child-rearing are not analogous. Freedom to choose one's way in life – autonomy is the term most often used in bioethics – is crucial to human flourishing, but such a freedom is possible only from the position of already being *someone* who can choose. Unless there is first someone who has not been chosen to be such-and-such but merely accepted and taken responsibility for *as* such, there is no freedom to be enjoyed. To flourish means to be true to *oneself* by identifying and living according to one's self-determined core life values, and it is crucial for such an attempt that one's genetically influenced characteristics have not been predetermined by others, including parents (Habermas, 2003, pp. 44–53). We should fear the situation of parents genetically enhancing their children to maximize their success in a capitalist society for the same reason that we should fear a totalitarian society designing offspring to fulfil different forms of utility functions (Huxley, 2006). Choosing a partner with attractive characteristics, or, even, buying high-quality germ cells from a company, are admittedly also ways of enhancing offspring, but the way oocyte and sperm fuse in fertilization is still highly unpredictable as concerns the genetic set-up of the embryo (Brevini and Pennarossa, 2013).

Abstaining from choosing the characteristics of children-to-be beyond the measures taken to save them from considerable, unnecessary suffering is ultimately a matter of avoiding to instrumentalize the practice of procreation. The relationship between parents and their

children should be thought of as an empathic and dialogic relation. At stake in this relation is not only the understanding and avoidance of unnecessary suffering but also the possibilities of human flourishing. Child-rearing should respond to the personal characteristics that a child, from birth onwards, already embodies and expresses, and continually support and guide the child's possibilities to develop these characteristics in a successful way (Plomin, 2018). Providing a set of core life values certainly belongs to this process, but not in a way that would make it impossible or even too hard for the child to adjust in the set and change to a different type of life than the parents had hoped for and tried to make available.

Core life values are admittedly a rather inclusive concept, all the more so with the provision of Charles Taylor's specification of the three zones, which include moral values, the good life, and self-respect in the eyes of others (1989, pp. 14–15). To teach a child how to behave morally, in the sense of caring for others and being just, could hardly be looked upon as some form of parental indoctrination. The crucial life-value choices of the child that need to be *guided* rather than plainly taught are about the contents of the good life, while self-respect in the eyes of others is related both to moral values and to the characterization of the good life.

The worry about enhancement though genetic selection and manipulation of the embryo, in proceeding to the non-disease domain, is therefore a concern that has to do with the impossibility of objectively determining the shape and content of a good human life in any detail, but also with the potential *instrumentalization* of the most important type of human relationship that exists – that between parents and their children. If the situations in which we assume responsibility for children get transformed into situations in which we design our offspring to be the type of persons we want them to be, they are being considered as means to attain our goals rather than as future ends in themselves. The term for responsibility, *Verantwortung*, used by Jonas (1984) and Habermas (2003) in the German originals of the books I have referred to above, captures this dialogical, non-instrumental duty – in a much better way than 'responsibility' can – through its implication of 'responding to' the child. To assume responsibility for someone means 'to answer to' his or her needs and wishes, and to know *how* to do this, the parent must *get to know* the child. The embryo to be implanted is clearly not a person one can have a dialogue with, nor is the kicking foetus or the screaming newborn child, but they are nevertheless persons in potential being who appear to the parent(s) as a 'you should take care of me'. Parents and others (medical staff, proxy caretakers) responsible for caretaking answer to a demand to exist and flourish from a vulnerable child-to-be whom they will be given the possibility to know and love in the process of so doing if they fulfil this imperative of responsibility.

Conclusion

In this article, I have developed and defended a phenomenological view on *in vitro* embryos exploring the implications of this view regarding what we are allowed to do with them. I have compared this phenomenological view on the dangers of reification and instrumentalization in comparison with other positions in bioethics, regarding the *in vitro* embryo as either a full person or a lump of human cells, merely. The phenomenologist holds the embryo to be a potential human person, but also acknowledges the changes in basic ontology brought about by medical technologies when producing embryos in the laboratory. The phenomenological judgement that the *in vitro* embryo is a different type of entity than the embryo formed by fusion of egg and sperm in the Fallopian tubes of a woman does not mean that we can treat *in vitro* embryos like any kind of stock. *In vitro* embryos, however they are made, still have a significant symbolic standing that demands respect on the strength of their biological potentiality. Such a standing could be reflected in practice by limiting the use of IVF embryos to fields of research that seek cures for severe human diseases and which cannot be pursued by other means and by forbidding the buying and selling of human embryos.

Regarding the future possibilities of not only selecting (PGD) but also manipulating the genes of embryos in IVF by way of CRISPR/Cas and other technologies, the phenomenological conclusion was that such interventions should not move beyond de-selecting or deleting genes that carry severe risks for developing painful and debilitating diseases. Abstaining from choosing the characteristics of children-to-be beyond the measures taken to save them from considerable, unnecessary suffering is ultimately a matter of avoiding instrumentalizing the practice of procreation. The relationship between parents and their children should be thought of as an empathic and dialogic relation. At stake in this relation is not only the understanding and avoidance of unnecessary suffering but also the possibilities of human flourishing. Child-rearing should respond to the personal characteristics that a child, from birth onwards, already embodies and expresses, and continually support and guide the child's possibilities to develop these characteristics in a successful way.

References

Agamben, G. (1998) *Homo Sacer: Sovereign Power and Bare Life.* Trans. D. Heller-Roazen. Stanford: Stanford University Press, 200 p.

Agar, N. (2013) *Truly Human Enhancement: A Philosophical Defence of Limits.* Cambridge, MA: MIT Press, 233 p.

Aho, K., ed. (2018) *Existential Medicine: Essays on Health and Illness.* London: Rowman & Littlefield, 269 p.

Aho, J., and K. Aho (2008) *Body Matters: A Phenomenology of Sickness, Disease, and Illness*. Lanham, MD: Lexington Books, 195 p.
Bellieni, C. V. (2012) Pain assessment in human foetus and infants. *The AAPS Journal*, Vol. 14, no. 3, pp. 453–61.
Brevini, T. A. L., and G. Pennarossa (2013) *Gametogenesis, Early Embryo Development and Stem Cell Derivation*. Dordrecht: Springer, 80 p.
Carel H. (2008) *Illness: The Cry of the Flesh*. Stocksfield, UK: Acumen, 198 p.
Cohen, J. (2019) Did CRISPR help or harm the first-ever gene-edited babies? [online] *Science Magazine*, August 01. Available from: www.sciencemag.org/news/2019/08/did-crispr-help-or-harm-first-ever-gene-edited-babies [Accessed June 4, 2020].
Cooper, M., and C. Waldby (2014) *Clinical Labor: Tissue Donors and Research Subjects in the Global Bioeconomy*. Durham, NC: Duke University Press, 290 p.
DeGrazia, D. (2005) *Human Identity and Bioethics*. Cambridge: Cambridge University Press, 300 p.
DeGrazia, D. (2012) *Creation Ethics: Reproduction, Genetics, and Quality of Life*. Oxford: Oxford University Press, 234 p.
Devolder, K. (2015) *The Ethics of Embryonic Stem Cell Research*. Oxford: Oxford University Press, 167 p.
Dworkin, R. (1994) *Life's Dominion: An Argument About Abortion, Euthanasia, and Individual Freedom*. New York: Vintage Books, 275 p.
Foucault, M. (1990) *A History of Sexuality, Vol. 1: An Introduction*. Trans. R. Hurley. New York: Random House, 200 p.
Gómez-Lobo, A. (2004) Does respect for embryos entail respect for gametes? *Theoretical Medicine and Bioethics*, Vol. 25, no. 3, pp. 199–208.
Habermas, J. (2003) *The Future of Human Nature*. Trans. W. Rehg, M. Pensky, and H. Beister. Cambridge: Polity, 129 p.
Harris, J. (2007) *Enhancing Evolution: The Ethical Case of Making Better People*. Princeton, NJ: Princeton University Press, 242 p.
Hauskeller, M. (2013) *Better Humans? Understanding the Enhancement Project*. Durham, NC: Acumen, 212 p.
Heidegger, M. (1977) *The Question Concerning Technology and Other Essays*. Trans. W. Lovitt. New York: Harper & Row, 182 p.
Jonas, H. (1984) *The Imperative of Responsibility: In Search for an Ethics for the Technological Age*. Chicago: Chicago University Press, 255 p.
Huxley, A. (2006) *Brave New World*. New York: HarperCollins, 229 p.
Jonas, H. (1987) *Technik, Medizin und Ethik*. Frankfurt am Main: Suhrkamp, 200 p.
Leder, D. (2016) *The Distressed Body: Rethinking Illness, Imprisonment, and Healing*. Chicago: University of Chicago Press, 287 p.
Liang, P., et al. (2015) CRISPR/Cas9-mediated gene editing in human tripronuclear zygotes. *Protein and Cell*, Vol. 6, no. 5, pp. 363–372.
Malmqvist, E. (2014) Reproductive choice, enhancement, and the moral continuum argument. *Journal of Medicine and Philosophy*, Vol. 39, no. 1, pp. 41–54.
Mauron, A., and B. Baertschi (2004) The European embryonic stem-cell debate and the difficulties of embryological Kantianism. *Journal of Medicine and Philosophy*, Vol. 29, no. 5, pp. 563–581.
Mills, C. (2011) *Futures of Reproduction: Bioethics and Biopolitics*. Dordrecht: Springer, 134 p.
Oregon Health and Science University (2013) Human skin cells converted into embryonic stem cells: First time human stem cells have been produced

via nuclear transfer. [online] *Science Daily*, May 15, Available from: www.sciencedaily.com/releases/2013/05/130515125030.htm. [Accessed June 4, 2020].
Palacios-Gonzalez, C., J. Harris, and G. Testa (2014) Multiplex parenting: IVG and the generations to come. *Journal of Medical Ethics*, Vol. 40, no. 11, pp. 752–758.
Parens, E. (2015) *Shaping Our Selves: On Technology, Flourishing, and a Habit of Thinking*. Oxford: Oxford University Press, 204 p.
Plomin, R. (2018) *Blueprint: How DNA Makes Us Who We Are*. London: Penguin Books, 280 p.
Robertson, J. A. (2003) Extending preimplantation genetic diagnosis: The ethical debate. Ethical issues in new uses of preimplantation genetic diagnosis. *Human Reproduction*, Vol. 18, no. 3, pp. 465–471.
Slatman, J. (2014) *Our Strange Body: Philosophical Reflections on Identity and Medical Interventions*. Amsterdam: Amsterdam University Press, 180 p.
Svenaeus, F. (2011) Illness as unhomelike being-in-the-world: Heidegger and the phenomenology of medicine. *Medicine, Health Care and Philosophy*, Vol. 14, no. 3, pp. 333–343.
Svenaeus, F. (2014) The phenomenology of suffering in medicine and bioethics. *Theoretical Medicine and Bioethics*, Vol. 35, no. 6, pp. 407–420.
Svenaeus, F. (2016) The lived body and personal identity: The ontology of exiled body parts. In E. Malmqvist and K. Zeiler, eds., *Bodily Exchanges, Bioethics and Border Crossing: Perspectives on Giving, Selling and Sharing Bodies*, pp. 19–34. London: Routledge, 212 p.
Svenaeus, F. (2017) *Phenomenological Bioethics: Medical Technologies, Human Suffering, and the Meaning of Being Alive*. London: Routledge, 161 p.
Taylor, C. (1989) *The Sources of the Self: The Making of Modern Identity*. Cambridge, MA: Harvard University Press, 601 p.
Thomson, J. J. (2006) A defence of abortion. In H. Kushe and P. Singer, eds., *Bioethics: An Anthology*, 2nd ed., pp. 25–41. Oxford: Blackwell, 738 p.
Waldby, C., and R. Mitchell (2006) *Tissue Economics: Blood, Organs, and Cell Lines in Late Capitalism*. Durham, NC: Duke University Press, 231 p.