DELIBERATIO
STUDIES IN CONTEMPORARY PHILOSOPHICAL CHALLENGES

2022, *2*(2), 101-114

https://deliberatio.uvt.ro/
SSN 2810 – 5826 ISSN – L 2810 – 5532 Print
ISSN 2810 – 5532 ISSN – L 2810 – 5532 Online

The Use of Human Embryos for Artistic Applications. Bioethical Considerations on Stefan Lorenz Sorgner's *Philosophy of Posthuman Art*

Maurizio Balistreri*

Abstract

When we think about posthuman or transhumanist art, we tend to limit our attention to works involving non-human animals or material of an animal origin. The merit of Stefan Lorenz Sorgner's work lies in how he encourages us to reflect also on works of art that involve or may imply the use and manipulation of material of human origin. In this article, we intend to ask whether we have cause to consider using human embryos and material of embryonic origin for exclusively artistic purposes immoral. Bioethics debate has faced the theme of the moral legitimacy of research or experimentation on human embryos, solely considering therapeutic purposes. We believe that the new frontiers of artistic research have by now made it necessary also to consider the employment and manipulation of human embryos from a broader viewpoint, able to bear in mind not only the therapeutic or medical purposes. The objective of this work is to discuss the question of whether the employment of human embryos or material deriving from there for merely aesthetic purposes is always immoral or at least less moral than their use for therapeutic or medical purposes. We shall state that using human embryos for artistic experimentation may be morally justified for the value we attribute to art and the so-called artistic experience. We shall, however, also state that the reasons that may justify the use of human embryos in medicine can also apply to the field of art more strictly, in that today, artistic research may contribute to scientific and technological development on various levels. In these terms, it may be maintained that using human embryos (or embryonic stem cells and tissue) in art can be morally justified as it may favour scientific research and the development of therapeutic solutions.

Keywords: transhumanism, posthumanism, bioethics, genome editing, art, human embryos

* *Department of Philosophy and Educational Sciences, University of Turin Via Sant'Ottavio 20, 10124 Turin (Italy). E-mail: maurizio.balistreri@unito.it. Orcid ID: 0000-0001-5704-7377.*

1. Posthuman Art and the Emergence of a new Anthropological Model

In *Philosophy of Posthuman Art* (2022), Stefan Lorenz Sorgner shows us that the works of posthumanist artists can open up new perceptions of things and reality, suggesting a 'paradigm shift' focussing on efforts to promote an ontology of the becoming of a non-dualistic character. Sorgner states that traditional philosophy and culture refer to, for example, rigid distinctions between mind and body, culture and nature, organic and inorganic, whilst posthumanist philosophy puts these ontological suppositions into play, nearing and mingling categories, concepts and substances that seemed distinct by their very nature: posthumanist art "is twisting categorial ontological dualities, aware of permanent becoming, inclusive, non-dualistic, non-anthropocentric, non-foundational, non-essentialist, non-speciesist, non-alethic, non-logocentric, non-heteronormative, perspectival, non-utopian and pluralistic" (Sorgner, p. 13). Through a detailed reconstruction of posthumanist (or, if you prefer, transhumanist) art, Sorgner can demonstrate innumerable examples of this artistic work, redefining the definition or notion of the human, shifting and broadening the borders of our identity (Sorgner, pp. 61-90). For example, the human is living material, flesh, blood, organs, and a genetic code composed of a certain number of chromosomes (substantially, a biological constitution of a certain type), but can at the same time also be avant-garde machinery, spare parts, prosthesis, and technology. Further, the body may be integrated with mechanical and technological parts and deeply changed to become subject to replanning work, which is (like work to replan any object) able to not only correct possible imperfections or anomalies, but also improve or enhance its dispositions. But more generally, it is the distance between organic and inorganic material, between living and inanimate material, that is put into play and dissolved in posthumanist art. Not only does the life of any being (the living, that is, organic material) depend on the inorganic material—so that it cannot survive if we endanger the environment; the life itself (that is, the living material) may be subject to artistic 'manipulation'. Replanning work may concern the natural borders between individuals or that between living species or focus on redesigning the features the different living species display. Whatever the specific objective is, posthumanist art seems to concretely create—and thus anticipate—what philosophy appears to be able only to imagine. That is, whilst bioethical thinking faces the new scenarios opened by new technologies and intends to trace a distinction between morally acceptable and unacceptable intervention, posthumanist art is, through its 'experimentation' able to show us the future, driving us to think about what we can do with ourselves and our world. Starting from reconstruction work showing that posthumanism work is not only a philosophical reflection, Sorgner's objective is to explain that it is wrong to conceive of posthumanist art as but an instrument useful in promoting possible new technological applications (and in particular, genome editing) because this

involves authentic art (pp. 28-33). Although it is right that philosophy faces a 'phenomenon' that characterises contemporary art, in our opinion, philosophical debates on posthumanist art cannot be limited to discussing and refuting those twentieth-century philosophical and aesthetic conceptions that tend to reduce the possibility of fully recognising posthumanist art aesthetically. Given that posthumanist artworks on living material and tries to imagine new forms of (re)planning not only humans but also any living being, some philosophical and moral thinking able to face this work critically is also called for (Vaage, 2016). This does not just mean debating the morality of the experiments of posthumanist art (this is, of course, part of the moral work to be done, and we shall also try to do so): what emerges here is also the need to reconsider the tasks and role of those institutions that have thus far been charged with controlling the use of a certain type of biological material (especially when the material in question is of human origin or can, at any rate, be modified). Even now, we have posthumanist works that involve implanting technological or digital devices into the body or brain, using (human or other animals) stem cells to produce installations or construct organs or tissue to be integrated into a living body or genetically modifying living organisms with the genetic material of humans or other living beings. Tomorrow, turning to and manipulating living (and not only generically living, but coming from human beings) material in art could become a far broader phenomenon and raise more and more questions about these interventions' morality (and safety). Further, the fact that posthumanist art uses as its starting material living material (not only gene sequences but also cells, tissue and organs reconstructed with stem cells) must pose new bioethical questions which must have been hard to imagine before yesterday. For example, imagine that a (bio)artist intends to use a human embryo (or embryonic stem cells from a human embryo) exclusively for artistic purposes. Is it possible to defend the moral acceptability of research on human embryos for research purposes and, at the same time, consider their use for artistic purposes morally unacceptable? And are there conditions making the use of human embryos exclusively for research purposes more acceptable morally? And what are these more 'appropriate' conditions? This is an example of what we intend to maintain when we state that posthumanist art can broaden the area of philosophical and bioethical research. Starting from an analysis of this imaginary case relating to the use of human embryos (not for therapy or medical research, but for exclusively 'artistic' purposes), we shall demonstrate the importance facing posthumanist art may have for philosophical thinking and bioethical reflection. Further, we shall show that posthumanist art demands bioethical thinking (and bioethical thinking's ability to enlarge its field of interest to artistic research, too) in that it can help pinpoint the most appropriate solutions able to reconcile the value of the artist's freedom with other equally legitimate needs of society.

2. Is it Moral to use Human Embryos for Merely Aesthetic/Artistic Purposes?

Let's try to imagine that an artist requires the use of human embryos for exclusively artistic purposes.
A few years ago a Yale University student told the student newspaper a story about inducing repeated abortion on herself times and using the blood (of the repeated abortions) for her senior art project:

> Ms Shvarts told the student paper that she planned to display a work that consisted of a cube lined with plastic sheets with a blood-and-petroleum-jelly mixture in between, onto which she would project video footage of herself "experiencing miscarriages in her bathroom tub". (Eaton-Robb, 2008)

The story later turned out to be false or in any case part of a more general artistic project, but it offers a good example of the possibility that an artist may want to use an human embryo for 'artistic' purposes. We shall think about two different questions: the first is whether using human embryos or biological material from human embryos is morally acceptable. The second question is whether—even conceding the possibility of considering the use and manipulation of human embryos for exclusively artistic purposes morally acceptable—the use of human embryos for artistic purposes is always morally less acceptable than their use for therapeutic purposes (that is, for the development of pharmaceuticals and interventions promoting health). When we talk of 'embryo', we are referring to the organism developed at the moment of conception (or fertilisation of the egg cell) up to the birth of a new individual. In our opinion, it is essential to bear in mind the different phases in the development of the human embryo, in that a part of our moral assessment cannot fail to consider and start from the principal 'features' the human embryo displays in the various moments of its development. However, in moral thinking on our responsibility towards human embryos, we can consider and give importance to the different stages in the development of the embryo without needing to attribute another name (zygote, embryo, foetus, etc.) to the forming organism. The thesis we support is that the human embryo cannot have any 'moral' relevance—either from the moment of conception or the moment of the formation of the primitive stria (that is, from the fourteenth day), in that any attempt to state that the embryo becomes a person from the moment of fertilisation or the fourteenth day is up against paradoxical results. It must also be borne in mind that conceiving a person is not a descriptive concept (i.e. reducible to ontological level) but—as John Locke states—a legal or moral concept. So asking whether an individual is a person does not simply mean reconstructing how things are but asking whether we have a reason not to consider or treat it as a mere object. The simple fact that—from the moment of conception—the human embryo has the

potential to become an adult individual cannot provide sufficient reason to consider it a person. Indeed, this type of potential is also possessed by cells—like spermatozoid, egg or somatic cells—which do not deserve any moral relevance (Charo, 2001; Singer & Dawson, 1988). We believe that a human embryo starts to deserve the respect that we generally afford humans at the moment in which we can say that an 'I' has begun to form itself. However, the question relating to the I's start (and finish) is not merely scientific but also philosophical. Hence, it is a question we can answer in very different ways too. Yet from our viewpoint, there cannot be an 'I' (and we, therefore, cannot speak thereof) in the absence of any mental activity, which is why the human embryo may not be a person (and deserve to be treated as such) in the very first stages of its development.

The simplest scenario in which the use of a human embryo for exclusively artistic purposes seems morally justified is at conception when the embryo has only one cell (that is, the egg cell has been fertilised by a spermatozoid and now possesses forty-six chromosomes). Indeed, at the moment of fertilisation, there is a cell which cannot be distinguished from any somatic cell regarding genetic features and potential development (Balistreri, 2018). That means that the use of a fertilised oocyte (that is, a zygote) for exclusively artistic purposes could appear or be considered morally repugnant (or ill-considered) only should we be disposed to state that the use of human biological material (for merely artistic purposes) is always unacceptable from a moral point of view. However, using a body cell for simply artistic purposes does not seem inappropriate, so we have no reason to express a different judgement on the fertilised egg cell. If it is moral to use a somatic cell, then using a fertilised cell is not immoral.

To some, the statement that a fertilised egg cell has the same relevance as a somatic cell (or any cell from our body) may seem counter-intuitive. The point is that it used to be understandable for a body cell to appear profoundly different from a fertilised egg cell, but things are entirely different now. In the past, a new individual could only be born from the fertilisation of an egg cell, whilst today the fertilisation of the oocyte with the spermatozoid is no longer necessary for birth, in that there is now also technology allowing the production of a new individual directly from a somatic cell and consequently without the need to pass through fertilisation. That is, with the assertion of reproductive technologies like cloning, the somatic cells no longer seem to be ontologically different from fertilised cells. After all, a somatic cell has the same number of chromosomes as a human embryo; further, in the presence of appropriate circumstances, a body cell has the same capacity as any human embryo (produced by fertilisation) to develop and give rise to an adult individual; finally, the somatic cell does not actually have a different origin from the fertilised cell, in that body cells too are still the result of a process of differentiation that is launched—in the human species as in other animal species—with fertilisation.

Various objections have been made against the thesis that, with the development of new reproductive technologies, a body (i.e., somatic) cell could no longer be distinguished from an embryo. It has, for example, been stated that the embryo would have an active ability to become a new individual, whilst a body or somatic cell would only have a passive ability, in that it could become an adult individual, not naturally (or spontaneously), but only through a series of operations or human interventions permitting the launch of its development (Reichlin, 1997; DiSilvestro, 2006). That is, it is true that a body cell has all that is (genetically) required to become (and give rise to) a new individual, but for the birth of an adult individual from a cell from my body, that cell must be subjected to a series of treatments. In the case of cloning, we must, for example, bring back the processes of cellular differentiation and transfer the nuclear DNA into a previously denucleated egg cell. However, the idea that a somatic cell has passive potential because it may give rise to an adult individual only through a series of interventions, whilst the embryo would have active potential because it could reach the same result spontaneously (or at any rate without the help of human beings) does not appear convincing at all (Charo, 2001). Above all, human embryos also need human intervention (or support) to develop. For example, no embryo would be able to become an adult individual if a woman chose to have a child and were able to carry through pregnancy (Balistreri, 2018).

Further, the embryos (the cells produced starting from spermatozoid fertilisation) may also present health problems (for example, genetic anomalies) and need—even invasive—interventions so as to be in a condition to develop into a new individual. If you think, for example, of the interventions that are currently practised in some countries and allow the correction of possible anomalies in the embryo at the level of mitochondrial DNA through technologically advanced interventions which—just as in the case of cloning—involve nuclear DNA being transferred into an egg cell that was previously deprived of a nucleus. Objections have been made that, however, in the case of a reproductive cloning intervention, it would not be the body (or somatic) cell that develops in a new individual. Still, the cell reconstructed after the nuclear DNA's transferral into an egg cell that was previously deprived of a nucleus. In other terms, it would not be the somatic cell to have the potential of an embryo, but the cell obtained after practising the intervention of cloning or nuclear DNA transferral (Oderberg, 1997; DiSilvestro, 2006; Oakley, 2006; McGee, 2014). However, the idea that the somatic cell is not identical to the reconstructed cell seems dubious because they still have the same nuclear DNA and can only be distinguished by the mitochondrial one. In other words, a very limited number of genes (those of the mitochondrial DNA) change.
Further, we believe that genome editing interventions can have a therapeutic character and consequently do not modify the identity of the unborn child even if they – actually – correct some characteristics of its genetic heritage—If that is, the

identity of any cell changes every time that even only some of its genes change, we should rule out the idea that genome editing interventions on the embryo, which can modify or somewhat correct its anomalies, can ever have a 'therapeutic' character. Indeed, interventions of this type would not correct the genetic abnormalities of the unborn child but irremediably change the identity of the embryo and hence of the person to be born (Sparrow, 2021). But even if we admitted that it is not the somatic cell to have the potential of an embryo but the cell obtained after the intervention of cloning or nuclear DNA transferral, the thesis that a somatic cell and a zygote are equivalent could still be supported, in that we may consider that tomorrow could see technologies to launch the development of a somatic cell a new individual without the need to transfer its DNA. Even if this intervention is not technically possible today, the fact that we can already assemble embryos starting from stem cells (Amadei et al., 2022; Tarazi et al., 2022) shows that this is not science fiction (Willyard, 2022).

Even if we admit that there is no difference between a fertilised egg cell and a somatic cell, it could still be stated that once the human egg cell has launched its development, we start to have significant cause to no longer treat it as mere biological material. But from which moment is it right (appropriate) to recognise some moral relevance to it? According to some positions, the human embryo starts to have moral relevance at the fourteenth day of development and, that is, (from the point of view of embryology) with the formation of the primitive stria, in that it is at that point no longer an agglomerate of more or less independent cells (Warnock, 1984, 2017; Blackshaw & Rodger, 2021). In the bioethics debate, the positions that do not accept the idea that the embryo is a person or should be treated as a person from conception broadly converge on this position (Cavaliere, 2017). One may defend the thesis that the embryo is individual from the second week of development without necessarily stating that from this moment, the embryo acquires moral relevance. However, there are still some who think that individuality is a necessary, sufficient condition (for the embryo) to have moral relevance so that the concept of 'individual' and 'person' coincide (while those who state that individuality is a necessary but not sufficient condition for the embryo to have moral relevance tend to shift the personality of the embryo further on: when, for example, it starts to form its complete nervous system of self-awareness). The positions stating that a human embryo is a person with the formation of individuality (so when it hits fourteen days or rather its first two weeks of development) consider any instrumental use of the embryo morally unacceptable from that moment (Warnock, 1984). From this perspective, until the fourteenth day, we have the right to perform research on embryos and even the duty to do so if it may be advantageous. But once it has reached two weeks' development and thus becomes an individual, we can intervene for therapeutic purposes (for example, to correct significant genetic anomalies). Still, it is always wrong to

subject it to treatment that may damage or destroy it (and from this perspective, use of the human embryo for exclusively artistic purposes until the fourteenth day, but not after that date, could also be admitted).

However, it is debatable whether the human embryo displays features that permit it to be considered a new individual on the fourteenth day of development. Those who defend the individuality of the human embryo on the fourteenth day of development maintain that as of this date, the embryo is no longer a collection of cells, as it would lose the ability to split and, in this way, give rise to twin embryos. Until then, on the fourteenth day, we can take a human embryo and split it (into two or more parts or cells) without compromising its development. After that, we can no longer do so because the embryo is now an individual. But if we call that organism which, if split, dies and its parts dissolve an individual, it is not at all true that the embryo is an individual starting from the fourteenth day of development. Indeed, even after the fourteenth day of development, we could be able to split an embryo into as many parts as cells are making it up without compromising the possibilities for these embryo cells to give rise to new human embryos. (All that would suffice to do this would be to use each of these cells in reproductive cloning interventions, i.e. transfer the DNA of each of these cells into egg cells deprived of DNA).

Further, anyone defending the idea that the human embryo becomes an individual on the fourteenth day of development assumes that the concept of the individual is one that can be reduced to the level of facts (or ontology). At the same time, it is possible to maintain that the concept of the individual is not 'descriptive' but moral. That is, calling someone an individual does not mean merely describing how things are but saying something regarding how we think it is right to behave towards that entity. (In other terms, the idea that the concepts of 'individual' and 'person' are synonymous may be asserted, not because they are descriptive concepts but because they are 'evaluative', i.e. moral ones). So if we want to establish whether the embryo is an individual, it is not sufficient to go and see whether, once split, its parts can survive: we must ask whether it has moral relevance and what that is (that is, the fact that the embryo is at a certain point no longer able to split and give rise to twin embryos does not yet prove that from that moment on, we can consider it an individual).

It is debatable whether the embryo becomes an individual on the fourteenth day. In that case, we may have reason to justify its use after that date and not only for research/experimentation activities which may have therapeutic effects but also for artistic purposes. Indeed, using an embryo that has passed the fortnight/two-week development phase does not mean exploiting an individual but employing a specific type of material (that we can describe as human material) for purposes that we consider worthy of being pursued. We do not intend to deny that this type of organism can develop into a new individual, but—as we have said—the mere

potential is insufficient to attribute relevance as we would otherwise have to treat somatic cells as people too. In some recent interventions, John Harris (2016) has maintained that we should revise the current international regulations and permit research on human embryos at least until the twenty-first day (McCully, 2021; Castelyn, 2020). In light of the previous considerations and the difficulty in recognising the embryo as an individual from the fourteenth day, we believe this position may be morally acceptable for 'research' activities with both therapeutic and artistic/aesthetic purposes.

3. Is Using Human Embryos for Artistic Purposes Less Moral than Using them for Therapeutic Purposes?

Using human embryos for purposes that are not exclusively therapeutic but also artistic may look like the morally improper usage of material we should rather treat with respect. It is, however, legitimate to ask whether employing this material for exclusively artistic purposes is morally inappropriate and why using human embryos for artistic purposes should always be considered less morally acceptable (than using them in reference to researching treatment that may improve life). There is no need to justify the moral value of an activity designed to develop awareness or interventions that may save lives or at least allow users to cure important diseases. And once we can debate the idea that the embryo (always) be considered a person from the moment of conception or starting from fourteen weeks, the use of embryos for research purposes seems not only morally acceptable but also the (morally) responsible use of an important type of material. Yet art, too, plays a crucial role in our lives, and through the artistic experience, we can not only access unique, original experiences of pleasure but also learn to look at the world (and recognise its value) from a new perspective. So if we look at things from this perspective, it does not seem morally correct to limit the use of human embryos exclusively to research activities linked to medicine and designed to cure or at least improve the state of people's health. Research activities that are not exclusively designed for medicine (and the identification of therapeutic purposes) also have important value and can, for this reason, justify a merely instrumental use (including the destruction) of human embryos. It could be maintained that our conclusion does not take an important difference into account: that is, it could be objected that in the field of medical research, the use of human embryos is necessary, and we do not have the possibility of performing the same type of research on other material. We can then give up human embryos (and research activities we carry out on human embryos), but this would mean agreeing to give up significant opportunities regarding curing important diseases and possible improvements. It could also be added that once we give up research (or experimentation) on human embryos, we could be forced to increase research using

animals. This would open the door to less morally acceptable activities. We know, that is, that research on non-human animals could be reduced (turning not only, where possible, to alternative solutions but also a smaller number of animals) and that we would have to research methodologies reducing the animals' suffering (which means refining or improving the wellness conditions of the animals used in research). Reducing or progressively eliminating research on human embryos could have highly negative consequences for animals and increase their suffering in the short and long term. It seems more difficult to assert the same debate for research regarding art. It could be stated that in artistic research, the use of human embryos is unnecessary and that any biological material (be it of human or animal origin) could be substituted by synthetic material that is perfectly similar to the natural one. The artist's research and creative activity are safeguarded (not limited), but—whatever the artistic project the mind has—he can create it without needing to turn to biological material and, considering the technology we may have available, remain perfectly true to life. It could, however, be objected that it makes a difference from the point of view of aesthetic experience if we stand before authentic biological material or simply a reduction thereof. I do not intend to state that it is never possible to obtain the same effect (or experience) by substituting the original material with 'artificial' material (which resembles it). Still, there will be other situations where we could think this substitution cannot be successful. If we think that in "bio-art", facing the biological material is the premise for a certain type of experience, here we have an example of how substituting the biological material with the synthetic material (with the copy) works to the detriment of the experience and the work of, on the one hand, of denaturalising nature and, on the other 'dehumanising' the human. That is, it could be thought that—at least for the field we know as bio-art—the use of biological material is necessary and cannot be replaced by any other type of material. At any rate, to stress the value of research on embryos for exclusively artistic purposes, I would not only refer to those projects (evidently linked to bio-art) able to tell us stories about our humanity and our relationship with nature. In my opinion, it is reductive to conceive of a certain type of research linked to manipulating the living as an activity only regarding art and the experience we can feel in contact with the type of object that has been produced at the artist's hand and to which we now turn our attention. A certain type of artistic activity implying the manipulation of living (and biological) matter could have a scientific type of value, broadening the imagination of researchers and scientists involved in activities improving and refining procedures permitting health promotion. Sometimes collaboration between artists and scientists is the precondition for developing a work of art that requires the modification of the genetic heritage or the living matter. Still, a collaboration between artists and scientists can also be the arrival point or at a further phase in the relationship between these people with different skills (and interests) and place the scientist or

researcher in a condition to explore more original lines of research. In these terms, the employment of human embryos for artistic purposes could be indirectly advantageous in developing treatments and drugs that are important for health.

4. Bioethics Committees for the use of Human Embryos for Artistic Purposes

The idea that research work can be controlled or require approval from a bioethics Committee could seem incompatible with the freedom we generally recognise in art (Gibas, 2019; Zurr & Catts, 2014). Yet, this way, the use of human embryos for artistic purposes would be regulated like that in which the use of human embryos for therapeutic purposes is currently regulated. And from a moral point of view, arguments may be advanced to justify using human embryos for artistic research only through approval from a bioethics committee. Firstly, we are not talking here of biological matter linked to or coming from the artist's body, but of a human embryo produced on demand or with the consent of two more people. So it seems fair that the consent of these people (to both the production, cryopreservation and possible late use of their embryos for research purposes) be verified.

Further, seeing that a bioethics committee checks the project permits the careful examination of the reasons proposed to ask for the use of human embryos. We have indeed ruled out the idea that human embryos can have moral relevance from the moment of conception (i.e., fertilisation) or upon reaching fourteen days of development. But we are still dealing with biological material which can, in the presence of the right or appropriate condition, can give rise to and develop into an adult individual, so the due precautions must be taken, and usage that seems unscrupulous is ruled out. It must also be remembered that, on the level of sense, many people do, however, think that the human embryo deserves respect from the moment of conception, so—at least where possible—the effort to reduce the (moral) disapproval people may feel should be appreciated. Considering these facts, too, it could be preferable to use—at least where it does not compromise the intended research and project—only human embryos which display genetic anomalies and cannot, however, develop into new individuals. In our opinion, it is not possible to distinguish a priori (and – evidently – once and for all) what may be the uses (and this also means the objectives of the artistic research) that are morally appreciable (and so justify the use and destruction of human embryos) as opposed to those that are morally sufficient and exclude approval. But the principles that orientate the evaluation of research projects on embryos for research purposes could also be an essential compass for evaluating this research. For example, reasons that could justify refusing the request to use human embryos for exclusively 'artistic' ends could include the scarce (or no) originality in the research or the lack of scientificity (or appropriate scientificity) in the project

proposed (in this case, then, the use of embryos would be an unjustified waste of scarce resources in that evidently—even making all possible effort—the project could not be realised) or the possibility of realising the research with an alternative and morally less problematic material—while the reasons that could morally justify employment/use of embryos could concern the possibility of obtaining significant 'results' at an artistic or scientific research level.

5. Conclusions

When we think about posthuman or transhumanist art, we tend to limit our attention to works involving non-human animals or material of an animal origin. The merit of Stefan Lorenz Sorgner's *Philosophy of Posthuman Art* lies in how he makes us think also on works of art that involve or may imply the use and manipulation of material of human origin (from stem cells to somatic cells and tissues). It has been said that today, after decades of silence, 'art about abortion' enters the establishment:

> the subject of abortion, which historically was shrouded in shame and relegated to the realm of unspeakable secrets, has lately been gaining visibility in the art world. The change owes something to a mix of museum officials, blue-chip galleries, art fair administrators and young artists who grew up at a time when art that explored personal identity moved from the cultural fringe into the mainstream. (Solomon, 2022)

In this article, our main aim has been to ask and understand whether we have cause to consider using human embryos and material of embryonic origin for exclusively artistic purposes immoral. We have stated that using human embryos for artistic experimentation may be morally justified because: 1) art and so-called artistic experience have value, and 2) artistic research may contribute to scientific and technological development on various levels and favours scientific progress.

References

Amadei, G. et al. (2022). Embryo Model Completes Gastrulation to Neurulation and Organogenesis. *Nature*, 610, 143–153. https://doi.org/10.1038/s41586- 022-05246-3.

Balistreri, M. (2018). Nascere da una cellula del corpo. Il dibattito sulla rilevanza morale delle cellule somatiche alla luce dei nuovi scenari riproduttivi. *Ethics & Politics, XX* (2), 309–331.

Blackshaw, B.P. &Rodger D. (2021). Response to Why we Should not Extend the 14-day Rule. *J Med Ethics*, *47*(10), 712–714.

Castelyn G. (2020). Embryo Experimentation: is there a Case for Moving Beyond the '14-day rule'. *Monash Bioeth Review*, *38*(2),181–96.

Cavaliere, G. (2017). A 14-day Limit for Bioethics: the Debate Over Human Embryo Research. *BMC Medical Ethics*, *18*(1), 1–12.
Charo, R.A. (2001). Every cell is Sacred: Logical Consequences of the Argument from Potential in the Age of Cloning. In P. Lauritzen (Eds.), *Cloning and the Future of Human Embryo Research* (pp. 82-92). Oxford University Press.
DiSilvestro, R. (2006). Not Every Cell is Sacred: A Reply to Charo. *Bioethics*, *20*(3), 146–157.
Eaton-Robb, P. (2008, April 19). Yale Abortion Hoax 'Performance Art'. *The Age* https://www.theage.com.au/world/yale-abortion-hoax-performance-art-20080419-ge6zgj.html
Gibas, K. (2019) Bioethical Atrategies in the Context of Bioart. *Panoptikum*, *21*(28), 10–27.
Harris, J. (2016, May 6). It's Time to Extend the 14-day Limit for Embryo Research. *The Guardian*. https://www.theguardian.com/commentisfree/2016/may/06/extend-14-day-limit-embryo-research
McCully S. (2021). The Time has Come to Extend the 14-day limit. *Journal of Medical Ethics*. doi:10.1136/medethics-2020-106406. [Epub ahead of print: 02 Feb 2021].
McGee, A. (2014). The Potentiality of the Embryo and the Somatic Cell. *Metaphilosophy*, *45* (4-5), 689–706.
Oderberg, D.S. (1997). Modal Properties, Moral Status, and Identity. *Philosophy & Public Affairs*, *26*(3), 259–276.
Oakley, J. (2006). Reproductive Cloning and Arguments form Potential. *Monash Bioethics Review*. *25*(1), 42–47.
Reichlin, M. (1997). The Argument from Potential: A Reappraisal. *Bioethics*, 1, 1–23.
Singer, P., & Dawson K. (1988). IVF Technology and the Argument from Potential. *Philosophy and Public Affairs*, *17*(2), 87–104.
Solomon, D. (2022, September 11). After Decades of Silence, Art About Abortion (Cautiously) Enters the Establishment. *New York Times*.
https://www.nytimes.com/2022/09/10/arts/design/art-abortion-whitney-javits-museums-galleries.html
Sorgner, S. L. (2022). *Philosophy on Posthuman Art.* Schwabe Verlag.
Sparrow, R. (2021). Human Germline Genome Editing: On the Nature of our Reasons to Genome Edit. *American Journal of Bioethics*. DOI: 10.1080/15265161.2021.1907480.
Tarazi, S. et al. (2022), Post-gastrulation Synthetic Embryos Generated ex utero From Mouse Naive ESCs. *Cell*, 185, 3290–3306.
Vaage, N.S. (2016). What Ethics for Bioart?. *Nanoethics*, 10, 87–104.
Warnock, M. (1984). Report of the Committee of Inquiry into Human Fertilization and Embryology. *Her Majesty's Stationery Office*. http://www.hfea.gov.uk/docs/Warnock_Report_of_the_ Committee_of_Inquiry_into_Human_Fertilisation_ and_ Embryology_1984.pdf
Warnock, M. (2017, January 9) Should the 14-day Limit on Human Embryo Research be Extended? *BioNews*. https://www. bionews.org.uk/page_95833
Willyard, C. (2022). Mouse Embryos Grown Without Eggs or Sperm: Why, and What's Next? *Nature*, 609, 230-231.

Zurr, I. & Catts, O. (2014). The Unnatural Relations Between Artistic Research and Ethics Committees: an Artist's Perspective. In P. Macneill (Ed.), *Ethics and the arts* (pp. 201-210). Springer.