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# A 21ST CENTURY REPRODUCTIVE BIOETHICS<sup>1</sup>

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## *abstract*

*Since its beginnings Bioethical analyses and debates have been mostly aimed at discussing the permissibility of new practices such as New Reproductive Technologies (NRTs). NRTs are no longer “new”: they are part of human ordinary life and contribute to human flourishing, allowing people to build families that could have not been built otherwise. Bioethics should take this fact into account and modify its agenda accordingly. NRTs should be regarded not as a matter of “Frontiers Bioethics” but rather of “Everyday Bioethics” even when genetic interventions aimed at “choosing” the identities of future people are at stake. A 21st Century Reproductive Bioethics should be focused on how to improve the right of every human being to access NRTs and not on a general discussion about their permissibility.*

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## *keywords*

*new reproductive technologies, reproductive rights, frontiers bioethics, everyday bioethics, genetic engineering*

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### **1. Bioethics yesterday and today**

Usually an introductory course in Bioethics starts with the teacher stressing the “novelty” of the discipline she is introducing to her students. Bioethics is a relatively recent field of theoretical inquiry and public debate whose roots must be identified as being in the spread of new biomedical technologies and practices and, in general, in the advancement of science. The birth of Bioethics has been provoked by public concern and intellectual challenges raised by the new choices made possible by transplant techniques, IVF (*In Vitro Fertilization*), genetic diagnosis and so on. Furthermore, most of these new choices happened to become possible at an emblematic time for western democratic societies, that is the Sixties and the Seventies of the 20th Century. Those two decades have been characterized, in different forms in the various countries, by public debates and social movements aimed at rethinking the very nature of liberal-democracies in order to make them more equal and inclusive. In a sense, western societies have been shaken and challenged by movements aimed at making them more “democratic”, on the basis of the idea that democracy is not achieved only when political representation is democratic but when a “democratic form of life” is spread through society in its different institutions and practices (family, medicine, school and so on). In brief, the meeting of new biomedical choices and the new understanding of democratic citizenship triggered a debate about new rights connected to those choices, that is, the individual right to make choices in the new scenario of biomedicine (this kind of account about the birth of bioethics can be found in Lecaldano, 2005).

Most of the 20th Century Bioethics debate is occupied by discussions around the justification, nature and limits of those new rights: the right to reproduce, right to die and so on. This discussion is linked to the other main field of bioethical inquiry and debate aimed at scrutinizing the moral acceptability of such new techniques (“Is euthanasia permissible?”, “Can embryo research be performed?” and so on). Of course, the two fields are deeply intertwined and most of the answers to the questions raised regarding the first field depend upon answers given to the second one. Nonetheless, these two areas of bioethical research are not completely overlapping: from a normative point of view a particular technique/practice can be regarded as morally acceptable, but the right to use/perform it can be recognized as not being so (i.e. euthanasia can be judged per se as morally permissible and valuable on the grounds of normative quality of life, but the right to access it can be regarded as not being universal, as it is granted only under certain conditions).

Given this rough distinction between these two subfields of bioethics, a general assessment of the evolution of the bioethics debate can be attempted. In the light of these two topics, a

question can be asked: is 21st Century Bioethics different from 20th Century Bioethics? Is the agenda of Bioethics still the same or did it change through the years? The answer I will try to attempt is not a “sociological” one, that is, I will not evaluate trends in bioethics literature, public discussion and academic research. Reconstructing trends in academia and society is mostly a task for sociological research and I will attempt instead to pursue a different one. I will try to develop a theoretical answer to those questions, that is I will try to argue in favour of the idea that nowadays, in the 21st Century, Bioethics must deal with an agenda that is somehow different from that of 20th Century Bioethics. In particular, I will discuss this idea by looking at some topics within a specific field of Bioethics, that is *Reproductive Bioethics*. In general, my claim is that today agenda of Reproductive Bioethics should take into account, first, the fact that some techniques and practices regarded as “new” some years ago now they are part of human ordinary life. Since the birth of Louise Brown in 1978 it is estimated that 8 million human beings have been born thanks to IVF (data European Society of Human Reproduction and Embryology data, see: <https://www.sciencedaily.com/releases/2018/07/180703084127.htm>). The percentage of human beings born this way is still minimal with respect to the whole human population, nonetheless, it is a much more impressive figure with regard to the general population of countries where assisted reproductive techniques are mostly used. Whereas in less developed countries IVF is almost absent, in Europe and North America they are routinely adopted. Setting aside the issues of global international justice that might be raised by these different situations, when I speak of assisted reproduction techniques as part of daily human life, I am referring solely to ordinary life in some parts of the world. Therefore, my remarks will progress from this factual premise and will attempt to discuss whether the diffusion of assisted reproductive techniques should change the way philosophical bioethics deals with them.

The second point that reproductive bioethics should, at the present time, take into account is connected with the development of scientific knowledge about human ontogenesis. A great part of the reproductive bioethics debate has been traditionally dedicated to discussing possible responsibilities (and limits) of intervention aimed at choosing features of the offspring. Traditionally, this kind of discussion is elicited by practices such as embryo screening and selection, “germline” genetic interventions and, more recently, “bioenhancement” (Persson and Savulescu, 2014). My claim is that recent developments in the biological understanding of ontogenesis change the factual landscape against which this kind of discussion is developed. In a nutshell, an updated discussion should take into account the non-deterministic model of the genotype-phenotype relationship as demonstrated by the most recent advances in evolutionary biology.

In bioethical literature various forms of assisted reproduction are very often filed under the label “New Reproductive Technologies” (NRTs).<sup>1</sup> Given the approximate 8 million human beings born since 1978 thanks to various forms of assisted reproduction, perhaps whether such a definition is still appropriate for such techniques could be questioned. That assisted reproduction is part of ordinary human life does not need to be proved. Therefore, dropping the idea that NRTs are “novel” must be seriously considered. What kind of consequences could such a move entail for bioethical analysis?

## **2. Assisted Reproduction and “Everyday Bioethics”**

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1 The locution “Reproductive Technologies” entered the bioethics’ debate very early. It can be found, for example, as a lemma of the first edition of the famous *Encyclopedia of bioethics* edited by W.T. Reich (1978). The adjective “New” attached to that locution appeared also very early in the bioethical discourse and since the first half of the Eighties the locution “New Reproductive Technologies” started to be quite a common definition used to embrace various form of assisted reproduction (i.e. Frey, 1982; Walters, 1987).

In the 90's of the 20th Century, one of the leading Italian scholars of Bioethics, Giovanni Berlinguer, suggested that a distinction should be made between "Frontiers Bioethics" ("Bioetica di frontiera") and an "Everyday Bioethics" ("Bioetica quotidiana") (Berlinguer, 2003). According to Berlinguer, Frontiers Bioethics is about novel technologies challenging ethical reflection with new problems. One of the features of Frontiers Bioethics is that it deals with technologies and practices involving a limited number of people. On the contrary, Berlinguer suggested that Everyday Bioethics deals with issues embedded in more ordinary practices of medical care. Berlinguer's aim was to stress the need for theoretical and public debate of Bioethics to not underestimate the justice issues affecting a large number of people dealing with healthcare. Stretching a little the distinction made by Berlinguer and pushing it further its original scope, it can be said that nowadays, for the most part, assisted reproduction can only be very tenuously regarded as a matter of Frontiers Bioethics, forming instead a topic for Everyday Bioethics (for a recent overview of Berlinguer's positions: Rufo, 2020).

Filing assisted reproduction under the category of Everyday Bioethics means transcending the debate about its intrinsic moral acceptability: it is *prima facie* acceptable and people use it to pursue their own goals towards achieving the kind of life they judge to be good. Assisted reproduction as an Everyday bioethics issue means that its discussion and analysis should be mostly focused on the ethical issues raised by the ordinary uses people make of them. Before going into further detail about an Everyday Bioethics approach to assisted reproduction, a remark must be made about the premise behind moving assisted reproduction from Frontiers to Everyday Bioethics.

The claim that the spread and common use of assisted reproduction techniques justifies transcending the debate on their intrinsic acceptability can raise the objection that such a move means limiting the task of bioethics to descriptive ethics, dropping its normative ambitions. A full and in-depth confutation of this objection would require an analysis that cannot be articulated here. Nonetheless, a short reply against this objection can be made by recalling the fundamental character of philosophical analysis of ethics. Philosophical ethics – and therefore philosophical bioethics too – starts with human moral experience as it is and its normative task (whatever it is understood to be) cannot subvert such experience, but it can aim at critically reflecting on it and suggesting reforms based upon philosophical arguments. Philosophical ethics has neither the aim of founding the very fact of human morality nor the task of ignoring human moral experience as it is. This feature of philosophical ethics is particularly evident in a case such as assisted reproduction: both philosophical analysis and ordinary moral thinking must be engaged in a reflection on the acceptability of such technologies. Such reflection has taken place while the use of assisted reproduction has become more and more common. Therefore, we should recognize that assisted reproduction, at least in its fundamental features, has already been scrutinized and is part of ordinary human moral experience. Furthermore, it must also be recognized that assisted reproduction is, in general, understood and perceived to be something morally appreciable since it contributes to human happiness and flourishing. It helps people to pursue their plans to live the good life and it effects something that, *prima facie*, both for theoretical analysis and ordinary moral thinking, is regarded as morally valuable: bringing new human beings to life (for further details on this perspective in bioethics: Pollo, 2018).

### **3. New families, new forms of reproduction**

The spreading of assisted reproduction into ordinary life is deeply intertwined with another phenomenon that took place in the last fifty years, that is the transformation of the family. Such a transformation is fundamentally characterized by two features. On one hand, the patriarchal hierarchal model has been placed into question and replaced with an egalitarian model based on gender equality and the idea that children have rights and interests that are not necessarily best represented by their parents' will. Along with the abandonment

of the patriarchal model, other changes have occurred to the family: the family as based on a heterosexual relationship was paralleled by other models of families built upon non heterosexual relationships. These two facts (combined with others: single parent families, recombined families...) represent the core of the transformation real world families have undergone in the last decades. Instead of speaking of “family”, nowadays, “families” is far more accurate. Of course, the old model of the family still survives and there is no unanimous consensus on the switch from “family” to “families” (assuming that a previous concept of one “family” was indeed justified). Nonetheless, the plurality of families is a fact, and such fact is recognized by the law, even if in different, incomplete or undefined ways (in Italy, for example, such a process started with the reform of Family Law in 1975, with its most recent revision being the law on civil unions enacted in 2016). As a matter of fact, the trend in Western countries is of egalitarianism towards the various forms of family (an authoritative defence of new families’ recognition through marriage is: Nussbaum, 2010). Of course, recognizing such a trend does not imply that egalitarianism is fully realized. This lack of full recognition is the topic I would like to deal with here.

As a matter of fact, assisted reproduction has been one of the key factors contributing to this societal change by allowing new families to develop and flourish. Nonetheless, new families attempting to have babies through assisted reproduction have struggled, and still struggle with inequalities with respect to the right to access such techniques. Many countries still allow access to assisted reproduction just to heterosexual couples and only if they prove to be in a “stable relationship” (Italy is among such countries). Single and non-heterosexual parents-to-be are forced into so called “fertility tourism”, or else relinquish their reproductive plans should they not have resources to try to do abroad what they are prohibited to in their own countries. Therefore, one key issue of 21st Century Bioethics is the right to equal access to assisted reproduction techniques for people living in all different forms of families.

As a matter of fact, such a topic seems to be an old one, since – as stated before – it has been debated since the very beginning of assisted reproduction techniques. Nonetheless, my thesis is that the way this topic should be raised today is substantially different from the way in which it has been discussed during the early days of reproductive bioethics. Understanding assisted reproduction as one of the various forms through which human beings today can reproduce, rather than as an exclusive medical practice, radically changes the scenario. Such a change of scenario places the issue of the right to access to assisted reproduction squarely into the domain of basic human rights rather than in the more limited context of policies regarding access to the medical domain. Today, of course, there is no general consensus among bioethics scholars and moral philosophers on this idea. My thesis is a normative and theoretical claim: given what assisted reproduction represents in ordinary human life today, bioethical discussion about it must change. Nowadays discussing the right to access to assisted reproduction means discussing the right of human beings to build a family and allow it to flourish.

What kind of consequences should be entailed by such a change of scenario? It is not possible to present all of them in detail here. Nonetheless, a couple of general remarks can be made. First, the change of scenario entails a “demedicalization” of the bioethical debate on assisted reproduction. Of course, at least for the foreseeable future, assisted reproduction will continue to take place in medical environments and to be practiced by doctors. The “demedicalization” of the debate means that the medical reasons and arguments cannot form the ultimate reasons and arguments for regulating access to assisted reproduction and its practice in general. More precisely, this means that every human being has a *prima facie* right to access assisted reproduction in the same way that she/he has *prima facie* right to “naturally” reproduce and

to build a family (this is a negative right in as far as it is the right not to be prevented to).<sup>2</sup> This means that discussions on rights and responsibilities in assisted reproduction should not be separated from discussions on rights and responsibilities in more traditional forms of reproduction. If it is recognized that the aim of both “traditional” reproduction and NRTs is the same (that is, the birth of new human beings) then claiming different treatments for assisted reproduction becomes morally doubtful. Such a different regard for NRTs is, for example, argued from a slippery metaphysical premise that differentiates what happens “naturally” (whatever this means) from what happens “artificially” (whatever this means). Most of what has to be set against the soundness and tenability of moral arguments grounded in ideas of “nature” has already been persuasively argued by great modern philosophers like David Hume (1985) and John S. Mill (1985) (for a recap of the uses of “nature” in ethics and arguments against such uses: Pollo, 2008).

“Traditional” reproduction happens without any preliminary check of parents-to-be as a consequence of an unquestioned respect of the *prima facie* right of any human being to freely use her/his own reproductive capacities and of the right to pursue this towards building a family. Applying the same criteria used for “traditional” reproduction to NRTs (that is, subordinating medical considerations to more general and axiological prior ethical considerations about basic human rights) means that no assessment of requirements can be requested in order to enter into assisted reproduction procedures.

“Demedicalization” of assisted reproduction in the name of protecting basic human rights means its radical liberalization by virtue of the role it plays in the fulfilment of fundamental needs and the achievement of the goods essential for human beings. An objection to this claim could be that endorsing such a position could lead to some kind of “free market” of assisted reproduction and, therefore, to a sort of “far west” of reproductive techniques. Nonetheless, recognizing a basic universal right to access assisted reproduction does not *per se* entail an absence of regulation and control from the State. Affirming that every adult human being has a right to access assisted reproduction does not entail that those techniques can be offered by everybody, and, therefore, this means that the State can (and maybe should) regulate professionals and centres performing assisted reproduction by imposing norms and codes for them. Such a form of control should be performed to protect citizens willing to undergo assisted reproduction techniques. The nature and extension of this control cannot be discussed here, but it can be said that in general they should be aimed not to paternalistically interfere with people’s reproductive rights but to enhance their capacity to fully enjoy them. Controls should then be focused on the professionalism of operators, transparency of communication, economic fairness, and so on.

#### **4. Designing future people?**

The claim that assisted reproduction should today be demedicalized and that access to it should be recognized as a basic universal right is not the only reason for placing assisted reproduction into the field of Everyday bioethics. There is another consequence that must

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<sup>2</sup> This is not the place to present a discussion about the different arguments that can be made in order to justify and defend the right to reproduce (“traditionally” and therefore by means of assisted reproduction). Here I can just state that the background of my mentions of the right to reproduce is a virtue-utilitarian justification akin to the one presented by Eugenio Lecaldano (2005). I presented such an argument in Pollo, 2003. The right to reproduce should be understood as a “positive right to negative liberty”. This means that human beings should be helped in the exercise of their liberty to reproduce, which in itself does not entail the duty of anybody else to cooperate in the effort to reproduce the one who is exercising a right. Therefore, someone who tries to reproduce by means of surrogate pregnancy does not have a valid claim to oblige a woman to perform the pregnancy (but is free to make arrangements with a woman who agrees). Also, the right to reproduce is not the right to have a genetically linked offspring, but it is just the right to cause the birth of a baby who will be raised as a child.

be mentioned here. One of the features of assisted reproduction techniques that has been particularly highlighted as novel and unprecedented is the potential to give prospective parents the capacity to “control” traits of their offspring through forms of genetic screening (and embryo selection), and, more recently, by means of forms of gene-editing and genetic engineering. Apparently, the development of capacities in understanding the role of genes and of gene-editing techniques such as CRISPR could undermine the claim that assisted reproduction should be regarded as a part of Everyday bioethics. As a matter of fact, today it seems that we have far more efficient tools to shape the identity of the offspring than thirty years ago. Designing newborn identities seems to be a topic of Frontier Bioethics, since it is something that can happen now for the first time. Nonetheless, my claim is that, with regard to these new possibilities too, the approach should be rather different to the approach that was common during first wave bioethics. How can such a claim be justified, if it seems that today and in the foreseeable future tools to “control” offspring traits will be more powerful than in the past? As a matter of fact, such a claim can be sustained by the development undergone by genetics in the last thirty years. In the past, bioethical debates about genetic engineering and germ-line gene interventions seemed to be generally dominated by a rather deterministic view of the relationship between genotype and phenotype. Aside from some general caveats around the need to better understand the role of the environment in gene expression and the difficulty to identify single genes (or set of genes) for phenotypic traits, most of the discussions about genetic engineering and control of phenotypic traits of the offspring was dominated by a deterministic view of the relation between genes and somatic traits. Ethical discussion was mostly articulated around the issue of the legitimacy (or even the duty) to produce desired traits in the offspring (or to prevent undesired ones).

On the one hand, critics of the possibility of shaping offsprings’ identities by means of genetic engineering often highlight the loss of individual freedom that such an intervention will cause in people who will be born with traits predetermined by genetic choices of the parents. Notorious arguments of this kind are those presented by Hans Jonas (Jonas, 1985) and Jürgen Habermas (Habermas, 2003). These arguments claim that germ-line genetic engineering (and reproductive cloning) radically undermine the very possibility of individual freedom, that is the fact that human beings traditionally come to life “unforeseen”, and not carrying the burden of choices about who they should be that were made by their parents. On the other hand, supporters of the legitimacy or mandatory nature of germ-line genetic engineering claim that if it would be possible to safely produce traits in the offspring that will allow them to have a greater quality of life or, in general, to perform better in life, then it would be mandatory to do it (Harris, 1993; Persson and Savulescu, 2014).

Even if they sustain different ethical conclusions about germ-line genetic engineering, both positions seem to be based upon the same general factual premise about the nature of such engineering. Such a premise consists of the belief that genetic interventions are able to produce precise phenotypic traits by means of genetic interventions. The background of such a belief is another belief, that is the idea that there is a linear and simplistic relation between gene(s) and phenotypic traits.<sup>3</sup> This kind of simplistic linear causal link from genes

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3 As a matter of fact, Savulescu, for example, somewhere rebuts genetic determinism and, on the contrary, uses such a rebuttal as a counter-argument against those who object with the argument that bio-enhancement entails a deprivation of autonomy (Habermas-like objections): “Unless one accepts a crude form of genetic determinism, it makes little sense to worry that the qualities of selected children would lose their unpredictability” (Savulescu & Kahane, 2009, p. 278). The oddity of such a rebuttal consists of the fact that removing predictability from genetic interventions radically undermines the argument in favour of their mandatoriness. If genetic interventions are just *likely* to entail some beneficial consequences in terms of offspring’s better quality of life then the idea that parents

to phenotype has been challenged by a dramatic development in the fields of Epigenetics and Evo-Devo (Evolutionary Developmental Biology) in the last twenty/thirty years. It is not possible to summarize here the large amount of knowledge collected in these fields of evolutionary biology. For the purposes of the present discussion it is enough to stress the fact that a non-reductionistic and non-linear relation between genes and phenotype emerges from these fields of research. The ontogeny of an organism (*Homo sapiens* included) is not just the unfolding of information coded in the DNA, producing the phenotypic traits building the individual as a whole. There are some phenotypic traits (among them, some pathological conditions and illnesses) that are linearly and directly caused by single or multiple genes, but the large majority of phenotypic traits are the outcome of much more complex processes in which environmental stimuli are crucial (for a general discussion of ethical issues of epigenetic see: Heil, Seitz, König and Robiński, 2017; for a discussion of the philosophical aspects of new developments of genetics: Griffiths and Stotz, 2013; for a general presentation of a no gene centered view of biological evolution: Jablonka and Lamb, 2005).

Such a non-reductionist scenario entails important consequences for the bioethical debate about genetic engineering in assisted reproduction. Trust in the possibility of “creating” phenotypic traits in the offspring (i.e. physical/mental qualities) and therefore of shaping precisely the identity of a new human being seems to be profoundly undermined. As a consequence, the ethical claims based on this trust are radically challenged. Of course, evaluations should be made case by case with regard to specific and particular interventions, but in general it can be said that both the fear of a predetermined (and, therefore, “slave”) genetically engineered human being and the hope for an enhanced human being genetically fit for a better quality of life seem at present to be built upon grossly underdeveloped ideas about what links a real human being to her DNA. Maybe in the future some sophisticated techniques will be able to deal with the uncertainties of the ontogeny and also determine phenotypes in the complex framework of the relationship between genes and environmental stimuli. Nowadays, both ethical opponents of genetic engineering and its ethical supporters should recognize the inadequacy of their premises. The idea that complex phenotypic traits can be easily “determined” by manipulation of an embryo’s genes is falsified by the new understanding of ontogeny provided by developments in evolutionary biology in the last decades.

This does not mean that a discussion about the moral implications of germ-line genetic interventions of human beings should not be carried out. The new framework of ontogeny entails some changes in *how* such an analysis should be done. In this case, the “exceptionality” of the new techniques (those already possible and also the ones yet to be developed) should also be reappraised. Of course, manipulation (and screening) of the genes of a human being that will be born is something new for human beings, but what the new understanding of ontogeny brings to debate is the idea that such a novelty does not consist of a dramatic and radical change in how human beings come to life. Genetic choices can be made but they are not likely to be of a rigid deterministic nature. Perhaps we can place them on a continuous line of choices that can already be made in more traditional way of reproducing (pre-conception exams, lifestyle decisions during pregnancy and so on).

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are strictly obliged to perform them when reproducing can be challenged. In a non-deterministic framework, genetic interventions are more similar to already existing precautionary measures to enhance quality of life of “traditionally” created human beings than to a silver bullet for future people’s quality of life. Therefore, in line with my point in this paper, genetic interventions should be treated and discussed in the same way as other, more common interventions are already.

The analysis carried out so far was intended to reflect on how to conceptualize assisted reproduction in the light of changes that have happened since new reproductive technologies started to become a part of human life. The aim was to argue in favour of the idea that the spread of assisted reproduction in ordinary human life, and the fact that it is becoming less and less “exceptional”. This normalization has been caused both by the increasing availability and success rate of assisted reproduction and by its role in helping “non-traditional” families to have babies. Another drive to normalization can be found in the advancement of knowledge about the role of genes in ontogenesis and in the debunking of purely reductionistic models of the genotype-phenotype causal relation. The consequences of acknowledging such normalization for bioethical debate on assisted reproduction can be different and varied. In conclusion, one of these consequences can be simply stated. Recognizing assisted reproduction as a subject for Everyday bioethics rather than Frontier bioethics (at least in the light of the present state of such techniques and of their role in human life) could help foster analyses and debates aimed at discussing the ethical issues of human reproduction as a whole, eliminating distinctions between “natural” and “artificial” reproduction. Freedom and responsibilities in bringing new human beings into existence are always the same, whatever the means through which these new human beings will be born.

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