

Genetically Engineered Salvation?

From Jürgen Habermas to Gregory of Nyssa

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1. Introduction

Modern developments in genetics and genetic engineering have made technically feasible a groundbreaking possibility: the modification of the human genome (*gene editing/genome editing*). Modern nuclease technologies have made it possible to carry out targeted interventions at the molecular level of DNA or RNA's function, with the aim of deliberately modifying the structural or functional characteristics of biological organisms¹.

The present paper is developed around this much promised scientific and technological development (human genome editing) and the challenges it poses for the future of humanity. Without overlooking the issues of security and justice that inevitably arise, this paper is focusing on its relationship with the idea of personal freedom. More specifically, in this paper we are setting out the problems associated with the use of innovative methods for the purpose of “improving” the human genome

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1. The main scientific information on the subject under discussion has drawn from The Nuffield Council on Bioethics, The Nuffield Council on Bioethics, *Genome editing: an ethical review*, 2016, <https://www.nuffieldbioethics.org/publications/genome-editing-an-ethical-review> [22.09.2023], as well as from the National Bioethics Commission, *Έκθεση. Γενετική έπεξεργασία του γονιδιώματος*, Vasiliki Mollaki, Takis Vidalis (presenters), 2016, https://bioethics.gr/api/files/download/1508/REPORT_Gene_editing_FINAL_GR.pdf?attachment=false [22.09.2023].

and then, through a hypothetical example, we are attempting to highlight an interesting overlap of philosophical and theological reservations about the improving use of genetic engineering.

2. Human Genome Editing Technologies

Modern methods of genome editing are based on the use of special enzymes called nucleases. In its report, the National Bioethics Commission provides concise and easy-to-understand information on how these methods work:

These nucleases cut the two strands of DNA at specific and targeted locations in the genome. In the cell, DNA breaks are repaired by two mechanisms, Homologous Recombination (HR) and Non-Homologous End-Joining (NHEJ), resulting in the addition, deletion or replacement of specific DNA sequences. Thus, the ability to create targeted breaks in the genome of organisms, combined with the ability to repair them, has revolutionized genome editing/repair².

Nuclease technology is used for the genome's editing in order to correct targeted genetic abnormalities that are responsible for diseases such as cystic fibrosis, haemophilia, Huntington's disease, etc.; thus, it is hoped that in the long term serious and fatal human diseases will be eliminated.

It would be hard for someone to deny that this is a major advance for science and humanity. As long as gene editing is used for the prevention and treatment of genetic abnormalities and disease predispositions by meeting the safety conditions, nothing seems to ethically differentiate genetic editing from conventional therapeutic methods: its prenatal application, by intervening in the human genome *in utero* or in the context of IVF and pre-implantation testing is much more preferable than putting the individual and his/her family through long and painful therapeutic suffering after the birth of the child. Moreover, genome

2. National Bioethics Commission, *Ἐκθεση. Γενετικὴ ἐπεξεργασία τοῦ γονιδιώματος*, *op.cit.*, pp. 4-5.

intervention at the pre-implantation level increases the likelihood of a successful pregnancy of a healthy embryo, diagnosed free of certain genetic abnormalities.

If, concern about justice (distributive and intergenerational) are overcome in the future –in addition to the safety ones–, i.e. if therapeutic gene editing becomes widely available to humanity and it is scientifically ensured that it will not cause uncontrolled alterations in the genome of future generations, then perhaps few issues will remain to be discussed regarding a widespread use of therapeutic gene editing.

3. The Dialogue on the Human Genome’s “Ameliorative” or “Enhancing” Treatment

Despite the above, serious concerns are raised both in society and in the scientific field. In addition to the therapeutic uses of genome editing technologies, it is also possible to process the genome with the aim of “improving” or “enhancing” the humans’ existing physical and mental characteristics (referred to in the relevant literature as “*human enhancement*”). Through the latter, constantly evolving and relatively simple CRISPR/Cas9 technology, gene editing can simultaneously target a large number of genes and achieve the introduction into the organism of genes that would not have been present during natural evolution.

It is argued that, in this way, gene editing would allow for the supernatural enhancement of human abilities³.

This possibility has caused intense debate and controversy in the scientific and philosophical discourse, and is increasingly becoming a matter of public discourse. Of the many (scientific, pseudoscientific and popular) views expressed for and against it, the paper’s present section will be concerned with the moral-philosophical arguments developed

3. National Bioethics and Technoethics Commission, *op.cit.* See also T. Vidalis, Vasiliki Mollaki, *Βελτίωση χαρακτηριστικῶν τοῦ ἀνθρώπου – Ἐπίδραση στὴν πνευματικὴ καὶ φυσικὴ κατάσταση*, ”Εκθεση γιὰ τὴν Έθνικὴ Ἐπιτροπὴ Βιοηθικῆς, 2012, and Vasiliki Mollaki, T. Vidalis, *Βελτίωση χαρακτηριστικῶν τοῦ ἀνθρώπου – Φυσικὰ χαρακτηριστικά*, ”Εκθεση γιὰ τὴν Έθνικὴ Ἐπιτροπὴ Βιοηθικῆς, 2013.

in relation to it. These arguments range from reservations about the restriction of personal autonomy and the emergence of “new eugenics” to proposals for the widespread and generalized adoption of human genome editing methods for the purpose of maximizing individual and social welfare.

More specifically, those who express reservations claim that gene modification paves the way to “positive eugenics” and the creation of “designer babies”. With “custom-tailored babies” –the argument continues – the possibility of genuine self-determination of the individual born with a modified genome is precluded, since the development of his or her personality will be determined (or limited) by the irreversible genetic defaults of his or her parents. Another objection focuses on the risk that the widespread introduction and use of these new biotechnological possibilities could lead to the dystopian scenario of the evolution of the human species being determined in the future according to completely circumstantial and arbitrary criteria, or on the basis of prevailing social and political views⁴.

On the other hand, the proponents of genetic improvement interventions usually formulate the whole issue on the basis of a dilemma: “*randomness or selection?*”. They claim that the genetic randomness of the “natural” way of reproduction has no moral basis, while the choice of genetic enhancements contributes to ensuring the conditions for an individual to have a better life, through the increase of healthy genes in the organism. The individual born through such a choice will start its life with an enhanced genetic potential, which will provide it with all the preconditions for the best possible use of its abilities and self-fulfillment.

4. Of the (many) critics of modern human genome editing methods for the purpose of enhancement, we could mention here the moral and political philosophers Jürgen Habermas, Michael Sandel, Francis Fukuyama and Leon R. Kass, who, in the last few years, have been systematically dealing with the subject under discussion. Among others, see M. Sandel, *Έναντια στὴν τελειότητα. Η ἡθικὴ στὴν ἐποχὴ τῆς γενετικῆς μηχανικῆς*, transl. D. Ginosatis, Alexandria Publications, Athens 2011; F. Fukuyama, *Our posthuman future. Consequences of the Biotechnology Revolution*, Picador, New York 2002; L. Kass, “Ageless Bodies, Happy Souls: Biotechnology and the Pursuit of Perfection”, *The New Atlantis. A journal of Technology and Society* 1 (2003), pp. 9-28. A special reference to Habermas will be made below.

Equally important for them are the wider social benefits: Health care expenditure for the prevention and treatment of genetic “disadvantages” and “inequalities” will be reduced not only for the individual but also for the public health (and education) system, thus saving resources and means for the promotion of the overall level of health, and for the raising of society’s general standard of living⁵.

A milestone in the relevant debate is the July 2018 report of the accredited and internationally recognized British Nuffield Council on Bioethics, which, based primarily on ethical principles (and secondarily on applications of new technologies), argued that *any* individual application of human genome editing could be morally permissible, provided that it is consistent with the promotion of individual well-being and social solidarity⁶.

The issue is nevertheless far from being considered ended; the bioethical issues at stake are not usually settled by expert opinions and committee decisions, or even by legislation. The debate continues unabated, not only because concepts such as “individual well-being” involve diverse conceptions of the good –they are therefore inherently exposed to subjectivity and relativism–, but also because the terms “health”, “disease”, “normal”, “cure” can hardly be divorced from their social, political and wider cultural context⁷.

5. Of fundamental importance for the defense of modern “liberal eugenics” through gene improvement techniques is the work of A. Buchanan, D. Brock, N. Daniels, D. Wikler, *From Chance to Choice – Genetics and Justice*, Cambridge University Press, Cambridge 2001, in which the authors are discussing the aforementioned dilemma and make a systematic analysis of modern bioscientific possibilities. See also N. Agar, *Liberal Eugenics – In defense of Human Enhancement*, Blackwell, Oxford, U.K 2004; J. Harris, *Enhancing Evolution: The Ethical Case for Making Better People*, Princeton University Press, Princeton 2010; J. Savulescu, N. Bostrom (eds.), *Human Enhancement*, Oxford University Press, Oxford 2007; J. Savulescu, “Why genetic testing for genes for criminality is morally required”, *Princeton Journal of Bioethics* 4 (2001), pp. 79-97; J. Savulescu, “Procreative beneficence: why we should select the best children”, *Bioethics* 5-6 (2001), pp. 413-26; C. Gyngell, H. Bowman-Smart, J. Savulescu, “Moral reasons to edit the human genome: picking up from the Nuffield report”, *Journal of Medical Ethics* 45 (2019), pp. 514-523.
6. The Nuffield Council on Bioethics, *Genome editing and human reproduction: social and ethical issues*, 2018; <http://www.nuffieldbioethics.org/publications/genome-editing-and-human-reproduction> [22.09.2023].
7. For a dialogue concerning the wider theoretical/epistemological thinking related to these

To be more precise, even today, public discourse, but also discussions among scientists and philosophers, are dominated by reservations about the application of genetic improvement. Of the various philosophical arguments that have been formulated and contain strong reservations about genetic enhancement of the human genome, the argument developed at the beginning of the century by the great living German philosopher Jürgen Habermas on the basis of the *autonomy principle* will be presented immediately below. The reason for choosing the Habermasian autonomy argument is not only its enduring influence and its critical reformulation⁸ on the bioethical debate, but also an unexpected affinity with the Church's patristic tradition.

4. Habermas's Autonomy Argument

At the dawn of the 21st century, and while debates on innovative biotechnological methods were already in full swing, Habermas published a monograph that was to have a profound impact on the debate. In his work: *The Future of Human Nature – Towards a Liberal Eugenics?*⁹, the proponent of the Kantian-inspired formalistic and procedural “communicative ethics” surprised many (not always positively¹⁰) by

concepts, see C. Boorse, “Health as a Theoretical Concept”, *Philosophy of Science* 44 (1977), pp. 542-573; M. Bunzl, “Comment on ‘Health as a Theoretical Concept’”, *Philosophy of Science* 47 (1980), pp. 100-115; R. Wachbroit, “Normality as a Biological Concept”, *Philosophy of Science* 61 (1994), pp. 579-591; I. De Melo-Martin, “On our obligation to select the best children: a reply to Savulescu”, *Bioethics* 18, 1 (2004), pp. 72-83.

8. See, among others, H. Haker, “Habermas and the Question of Bioethics”, *European Journal for Philosophy of Religion* 11, 4 (2019), pp. 61-86.

9. J. Habermas, *Die Zukunft der menschlichen Natur. Auf dem Weg zu einer liberalen Eugenik? – Glauben und Wissen*, Suhrkamp Verlag, Frankfurt am Main 2001. Greek edition: J. Habermas, *Τὸ μέλλον τῆς ἀνθρώπινης φύσης: Πρὸς μία φιλελεύθερη εὐγονική; Πίστη καὶ Γνῶση*, Greek transl. Maria Topali, Scripta Publications, Athens 2004. References to this work below are made with citations to the pages of the Greek edition.

10. For a general overview of the objections and doubts that have been raised about the philosopher's particular work, see K. Kavoulakos, «Η πρόκληση τῆς βιοηθικῆς καὶ τὰ δρια τοῦ θητικοῦ φορμαλισμοῦ. Η ύπεράσπιση τῆς ἀνθρώπινης φύσης ἀπὸ τὸν Γιοῦργκεν Χάμπερμας», *Δευκαλίων/Defkalion* 22, 1 (June 2004), pp. 43-64, as well as his Preface to the Greek edition of his book: «Πρόλογος στὴν Ἑλληνικὴ ἔκδοση», *Τὸ μέλλον τῆς*

arguing for a turn towards “essential contents”. Although having been an exponent of the Marxist critical theory and having identified himself as “religiously illiterate”¹¹, Habermas approached the bioethical issues of the new millennium having as his starting point the theological discourse and ideas of Søren Kierkegaard, the 19th century Danish philosopher and exponent of Christian existentialism.

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The argument that Habermas develops in this work marks his move from the formalistic idea of the “right”, which is fundamental to deontological ethics, to the substantively and evaluatively meaningful idea of the “good”, and a correspondingly meaningful idea of human nature. In contrast to the universalizability of the idea of the right, the idea of the good is inextricably linked “with the context of a certain bio-history or a particular form of life. It is related to questions of identity: How we ought to understand ourselves, who we are and who we want to be”¹². In this sense, the idea of the good is open to multiple answers and always remains open to subjectivity and relativism. However, Habermas’s reference to Kierkegaard is of particular importance, because through it he chooses to place himself in a *specific* axiological and worldview framework within which he seeks authentic answers to the crucial questions posed by developments in genetics and biotechnology.

In Habermas’s view, Kierkegaard had given “an answer to the question of right life that presupposes, of course, the end of *metaphysics* but is also deeply religious and at the same time *theological*”¹³. He had argued that life is valuable because of “someone’s ability to be oneself”¹⁴

ἀνθρώπινης φύσης..., *op.cit.*, pp. 11-21.

11. J. Habermas and J. Ratzinger (Pope Benedict XVI), *Η διαλεκτική τῆς ἐκκοσμίκευσης – Λόγος καὶ θρησκεία*, Schuler (Prologue), St. Zoumboulakis (ed.), Greek transl. Il. Tsirigakis, Hestia Publications, Athens 2010, pp. 13, 42.

12. Habermas, *Tὸ μέλλον τῆς ἀνθρώπινης φύσης...*, *op.cit.*, p. 28.

13. *Op.cit.*, p. 32.

14. *Op.cit.*, pp. 32, 33 and *passim*.

or, alternatively, “to be one’s own creator¹⁵. This answer provides the context for Habermas’s frame of reference; however much he tries to rescue a formalistic interpretation of this particular idea he nevertheless finds the theologically oriented meaning of its originator:

Kierkegaard insists that only through the consciousness of sin can the human spirit come to thoroughly understand its finite existence: the self truly exists only before God. It survives the phases of hopeless despair only in the form of a believer who, by relating to himself, establishes a relationship with something absolutely other, to which he owes everything¹⁶.

In other words, Habermas borrows from Kierkegaard the idea of existential self-understanding and autonomy, in order to use it as a departure point of his reflection on the contemporary bioethical issues of ameliorative genetic interventions.

According to Habermas, the issues raised by the prospect of the application of “positive eugenics” are not allowed to be approached subjectively, as matters of allegedly individual preferences and choices, but are only allowed to be answered from the perspective of a universal “moral self-understanding of the human species”, based on commonly accepted anthropological intuitions. The philosopher himself presents the question under discussion in the following terms:

Whether we see ourselves as responsible creators of our personal bio-history and can respect each other as being “equals” depends to some extent on how we understand ourselves anthropologically, as beings belonging to a species. Can we really consider the genetic self-transformation of the species as a way of extending the individual’s autonomy, or will we undermine the normative self-understanding of persons who are following their own path and treat each other respectfully?¹⁷.

The German philosopher approaches the question of autonomy by following the Kierkegaardian perspective of the individual’s self-

15. *Op.cit.*, p. 34 and *passim*.

16. *Op.cit.*, p. 38.

17. *Op.cit.*, p. 66.

understanding as “the integral creator of his own bio-history”¹⁸. Self-understanding through an idea of integrity is undermined, according to Habermas, by the “irreversible genetic interventions” of parents, which deprive their child of the possibility of taking full responsibility for his or her own bio-history. At the same time, though, Habermas, having recognized the philosophically finite nature of a psychological argumentation, attempts to reformulate its content in a language more familiar to himself – that of *intersubjectivity*; he asserts that human beings have the moral claim to continue not only to understand themselves but also *to be recognized by the others* as “the integral and responsible creators of their bio-history”. This claim is nevertheless undermined by the “obscuring of the intuitive distinction between natural and manufactured” and by their inability to assume equal roles with their “designer”¹⁹.

The transition process from the randomness of the natural to the choice of the artificial/manufactured distorts not only the person’s self-image but also the relations of equality between persons. Parent-child relations are *de facto* asymmetrical; thus, the one party (the child) becomes more vulnerable due to the harmful choices of the other (the parent). Unlike the *social* dependence of parent-child (through the choice of education, upbringing, religion, etc.), *genetic* dependence is deprived of an essential possibility: the reversibility of parental choices. If the parents chose to “enhance” their child’s biological characteristics by modifying its genome, they would irrevocably and irreversibly predispose their child’s life towards certain values of *their own* choosing; they would deprive the child of the possibility of self-understanding and at the same time of being able to assert itself in the (intra-family and wider) social environment on an equal footing as the integral and fully responsible creator of his bio-history.

Habermas is not blind to the social dependence of children on their parents, nor does he is naïve enough to believe that children *choose* (or can choose) their upbringing. Parents always remain the only ones responsible for this choice. Nevertheless, the philosopher overemphasizes

18. *Op.cit.*, pp. 61, 138.

19. *Op.cit.*, p. 90 et seq.

the reversibility of social dependency and places parental choices of upbringing under their future “critical reassessment” within a context of the child’s “revisionary learning process”²⁰. At any time in its life, the individual can critically reassess the parental teachings and upbringing and –if these contradict its inner beliefs and self-understanding– it can revise the parental choices, no matter how painful or successful this revision might be.

The possibility of critically reviewing personal choices, but especially those made by third parties (in this case, the parents), is a crucial characteristic, which, according to Habermas, statutorily defines the “human species’ moral self-understanding”. He claims that whatever might prevent the possibility of this critical reassessment violates the possibility of personal autonomy and the authentic creation of personal bio-history:

Ameliorative eugenic interventions harm moral freedom, to the extent that they trap the person involved into the intentions of third parties that have been rejected but are irrevocable, thus preventing it from understanding itself as the sole creator of its own life²¹.

This results in the inability to developing relations of moral equality due to the deprivation of the one party’s ability to carve out an authentically personal way of life:

In many respects, an asymmetrical relationship, a peculiar paternalism is created with genetic programming [...]. The consequences are irreversible, since the paternalistic intention is reflected in a disarming genetic program and not in a communicatively mediated socializing practice that the “offspring” will be able to process²².

The paternalism of “genetic enhancement” is peculiar, because it does not necessarily infringe or harm the freedom of the future person; on the contrary, it aims at enhancing it.

20. *Op.cit.*, p. 116.

21. *Op.cit.*, p. 117.

22. *Op.cit.*, pp. 118-119.

Yet it somehow interferes from within with another person's autonomy consciousness, since it makes itself the *accomplice of an alien life*. The programmed person from whom the consciousness of the randomness of naturally created biographical starting conditions is deprived of a mental condition that must be fulfilled in order to be able to retrospectively take *exclusive responsibility* for its life²³.

Genetic enhancement offends and violates the interpersonal moral equality of both parents and children; the more extensive the enhancement, the more dependent the individuals can become on the choices of their parents and more bound to the latter's unilateral and irrevocable decisions about their own life: "A eugenically programmed person will have to live with the awareness that his genetic origins have been manipulated in order to gain targeted influence over its phenotypic constitution"²⁴.

The autonomy argument, which Habermas adopts for the philosophical treatment of ameliorative genetic interventions, is in fact informed by a somewhat universal (though Christian in origin) conception of human nature. The "human species' moral self-understanding" is offended by ameliorative genetic design; it violates the distinction between artificial and natural, where the latter constitutes a random and therefore genetically non responsible term, and establishes the necessary condition by which an individual enters the social world as exclusively responsible for its own bio-history, i.e. as (potentially) autonomous.

5. A Mental Experiment: a Genetically Designed Salvation?

Attempting a co-examination of philosophical and theological reflections about enhancing genetic design, the present paper will propose a mental experiment inspired by a hypothesis –admittedly scientifically

23. *Op.cit.*, pp. 141-142 (underlining in the original). In the eloquent footnote that follows this formulation, Habermas returns to his theological starting point by highlighting the fact that natural randomness is not morally problematic; on the contrary, it is a component of the human species' moral self-understanding, because it does not constitute "the arbitrariness of a person equal to us".

24. *Op.cit.*, p. 104.

controversial–, published in 2004 by geneticist Dean Hamer and known as the “spirituality gene” or –commercially bloated– the “God gene”²⁵.

According to this hypothesis, a particular gene, scientifically named VMAT2²⁶, predisposes people towards spirituality and mystical experiences. Hamer defined spirituality as the ability to transcend the self (“self-transcendence”), which includes three elements: detachment from the self (the separation of the self from the stimuli of the external world), a sense of “connection” with a wider whole that engenders respect for all forms of life, and mysticism, i.e. intuitive insights that science cannot explain. The role that the “spirituality gene” is supposed to play is that it regulates levels of hormones like serotonin, dopamine and norepinephrine, which affect brain functions related to mystical beliefs and experiences. More specifically, he claims that “VMAT2 controls the flow of monoamines into the brain” and promotes a “higher form of consciousness”²⁷. Elsewhere, for those who question that “spirituality gene” possesses any value at all in the largely secularized and materialistic modern world, Hamer provides a pragmatic argument for its positive reappraisal: the gene may offer an evolutionary advantage to its carrier, in that it promotes an inherent sense of optimism, which gives a person the will to go on living and creating despite the inevitability of death, while it also improves personal health levels and contributes to faster recovery from illness.

Although this hypothesis is disputed by science –and its author himself admits that his discovery only partially and to a small degree determines man’s inclination towards spirituality–, the present paper will adopt it for the sake of the following hypothetical example:

Two prospective parents, identifying themselves as devout and faithful Christians, choose to intervene in the DNA of their future child –as long as it has become possible and safe to act likewise– to “enhance” it by introducing the spirituality gene. In this way, they hope to equip

25. D. Hamer, *The God Gene: how Faith is Hardwired into our Genes*, Doubleday, N. York 2004.

26. Acronym of the gene: Vesicular monoamine transporter 2.

27. According to a brief description, monoamine regulation is the mechanism through which many psychoactive drugs operate and some of them can produce local experiences that are sometimes described as spiritual or religious. M. Goldman, “The God Gene: How Faith is Hardwired into Our Genes” (book review), *Nature Genetics* 36 (2004), p. 1241. Accessed at: <https://doi.org/10.1038/ng1204-1241> [20.9.2023].

their child with a cerebral predisposition towards spirituality (and by extension, religion), by making controllable biologically based inclinations to passions and urges and promoting inwardness. Their ultimate goal is to make it easier for their child to be guided more firmly towards a virtuous spiritual life, religiousness, and, ultimately, “salvation”. These parents perceive their choice as an act of charity towards their child and as a fulfilment of their parental duty. They could also invoke the argument of the Nuffield Council Report that their choice ensures the individual well-being of their child, as *they themselves* understand it.

As one can easily understand, the parents in this hypothetical example do not proceed to edit their child’s genome in order to enhance commonly accepted values, such as intelligence or physical health, or to endow it with generally desirable physical characteristics, such as height or physical prowess. Instead, they use it to give their child a special characteristic that is extremely valuable *to them*. From their point of view, the genetic design of their child towards spirituality is a biological basis for Christian religiosity, which they will instill in their child after birth, so that it could be led seamlessly to salvation under God.

An evaluation of the proposed mental experiment under the prism of Habermas’s autonomy argument wouldn’t differ from the philosopher’s general stance. The genetically designed chemicals of the brain permanently and for life predispose the child’s brain function towards a certain state of mind, spirituality and the capacity for self-transcendence, which, according to the wishes of its parents, will lead it to religiosity and salvation. The spirituality gene has been indelibly inscribed in his DNA (at least, with the readily available scientific and biotechnological data); this inversely predisposes the individual’s life towards a certain value content of his or her parents’ choice. Does this have anything to do with the religious upbringing of a child, who can at any time in his life reassess, reevaluate and revise it (e.g. become agnostic or even atheist)²⁸?

28. We could refer to Frederick Nietzsche’s cancellation of the religious education he received in his childhood as a prime example of a retrospective reevaluation. The son of a Lutheran pastor, he came to proclaim the “death of God”, and eventually signed his letters as “the Antichrist”.

If it were ever possible to genetically inscribe spirituality in the brain function of the humans through the editing of their genome at the prenatal stage, the possibility of critical reassessment and revision of this choice and –ultimately– the possibility of the personal autonomy through an authentic and genuine exercise of free will would have been nullified, or, at least, substantially limited. The deliberately designed genetic predisposition to a particular way of thinking and living determines in an *irreversibly heteronomous* way the authentic selection and writing of personal bio-history. In any case, it also violates the terms of an equal and symmetrical relationship between parents and child, since it deprives the latter of the possibility of finding the “right way”, the “truth” and ultimately “salvation” through experiences which its parents managed with their own free will in their own lives.

However, one might ask: Is this obstacle to free will so serious, or could it be argued that it might promote autonomy? Or even, why is so much importance attached to the idea of autonomy in a cognitive experiment involving belief in God and religiosity, concepts that are exposed par excellence to heteronomy?

After all, a counter argument could be unfolded in the following terms: pious and faithful parents benevolently and charitably impart a beneficial and useful genetic trait to their child, which in any case will contribute to the improvement of its life conditions and, potentially, to its future “salvation”. On this point, then, as the autonomy argument by Habermas demonstrates, apart from the latter (which might leave the parents of the mental experiment indifferent), it would be useful to also consider purely theological arguments in order for the overlaps that have fueled the philosophical discourse of the 21st century to be highlighted.

Indeed, despite the fact that modernity has cast religion out from the public sphere and discourse, the world-historical events of the late 20th century and early 21st century (the collapse of “really existing socialism”, the emergence of religious –mainly Islamic– fundamentalism, the re-emergence of nationalism, etc.) have made it imperative to –at the very least– give some notice to the religious discourse regarding matters of value determination. Habermas also recognizes this need and that is why

he turns to the integration of the religious discourse to the philosophical one, wishing to derive essential content for the discussion of the critical existential questions posed by genetic design²⁹. This interest of contemporary philosophers and thinkers and the rediscovery of patristic theology reveal sometimes surprising affinities with the philosophy of Modernity, or perhaps even more so of Postmodernity. One of these “eclectic affinities” between philosophy and theology will be highlighted in the next section of our paper.

6. Gregory of Nyssa’s Teachings Regarding the Freedom of the Will

The issue of freedom of the will was for the Church a theological issue par excellence, connected with the creation of man “*in the image and likeness of God*”, as well as with the disobedience of the first creatures and the course of the human race after the Fall. The Christian concept of the creation of the world *ex nihilo* by God, the only self-existent Being, introduced the ontological categories of the *created* and the *Uncreated* and the dual existential relationship between Creator and creature. This relationship, like the whole of Christian anthropology, is crucially determined by the idea of freedom.

Among the great 4th Century Church Fathers who dealt with the issue of freedom of the will in the context of Christian doctrine, St. Gregory Bishop of Nyssa (c. 332-394 AD) has emerged as an ardent defender of the freedom of the will, and indeed in a philosophically platonic manner and method³⁰. In what follows, we will examine the basic ideas of his

29. See also the second part of Habermas’s work that we’ve already cited, where under the heading *Faith and Knowledge* (pp. 167-188), the philosopher reviews theological arguments for the critical evaluation of genetic engineering.

30. See, among others, H. F. Cherniss, *The Platonism of Gregory of Nyssa*, Burt Franklin, New York, 1971 (1st edition, 1930); Ilaria L.E. Ramelli, “Christian Soteriology and Christian Platonism: Origen, Gregory of Nyssa, and the Biblical and Philosophical Basis of the Doctrine of Apokatastasis”, *Vigiliae Christianae* 61 (2007), pp. 313-356; C. Roth, “Platonic and Pauline Elements in the Ascent of the Soul in Gregory of Nyssa’s Dialogue on the Soul and Resurrection”, *Vigiliae Christianae* 46 (1992), pp. 20-30.

anthropology connected with the issue under consideration, and we will illuminate the aspects of his teaching that make him unexpectedly relevant.

According to Gregory of Nyssa's anthropology, God created man in His image and endowed him with all the divine gifts, especially that of freedom, so that he could become a *god by grace*. The freedom of the will, which Gregory attributes to the term *προαίρεσις* ("purpose", "resolution" "scope of action", is identified with *free-will* and *freedom of intellect* (thought): «ό γάρ τοῦ παντὸς τὴν ἔξουσίαν ἔχων δι' ὑπερβολὴν τῆς εἰς τὸν ἀνθρώπου τιμῆς, ἀφῆκε τι καὶ ὑπὸ τὴν ἡμετέραν ἔξουσίαν εῖναι, οὐ μόνος ἔκαστος ἐστι κύριος. Τοῦτο δέ ἐστιν ἡ προαίρεσις, ἀδούλωτόν τι χρῆμα καὶ αὐτεξούσιον ἐν τῇ ἐλευθερίᾳ τῆς διανοίας κείμενον»³¹. Man's absolute authority and ownership over his own will is not only preferred over other men but even over God the Creator.

For Gregory, alongside *προαίρεσιν* (freedom of the will) there is another intrinsic element of human nature that contributes to the evolutionary process towards salvation – or, on the contrary, loss: the created nature's «τρεπτόν» (i.e., changeability). The "resolution" leads the "changeable" human nature in two directions, to its good or bad "alteration" («ἀλλοίωσιν»)³². The possibility of free choice and movement between these two states (good and evil) broadly defines the quality of the "changeability" as a characteristic of created human nature, in contrast to the uncreated God's «ἀτρεπτόν» (eternally unchanging). However, changeability, as an intrinsic human characteristic, is not a reason for mourning, but is the one which, combined with free will, leads man to virtuous life and salvation.

Virtue and evil coexist in the changeable created nature and it is up to human will to choose between the two. But, as Gregory of Nyssa teaches, virtue can only be pursued through the exercise of free will: «Ἄδεσποτον γάρ τι χρῆμα ἡ ἀρετὴ καὶ ἔκούσιον, τὸ δὲ καταναγκασμένον καὶ βεβιασμένον ἀρετὴ οὐ δύναται»³³. Gregory, by using a logical-philosophical argument, which parallels the "unenslaved" of resolution with the

31. Gregory of Nyssa, *Λόγος Κατηχητικὸς ὁ Μέγας*, 30, PG 45, 77.

32. Gregory of Nyssa, *Λόγος Κατηχητικὸς ὁ Μέγας*, PG 45, 60A.

33. Gregory of Nyssa, *Περὶ κατασκευῆς τοῦ ἀνθρώπου*, ch. ΙΔ', PG 44, 184.

“independent” of virtue, concludes that freedom and virtue can only be identified because of their common element, the “self-will”³⁴.

The special meaning of “self-will” is delivered by Gregory in a passage that is crucial for our discussion; in it, he asserts that all the origins and causes of the good are inscribed and inherent in man’s nature from his creation as an image of God. This means that man cannot expect goodness and salvation from causes that lie outside of himself; he must always seek them within himself and pursue them by the use of his free will. Since everything depends on man’s free will, the «*αὐτοκρατής τε καὶ αὐτεξούσιος δύναμις*» with which God endowed human nature is revealed³⁵. For this reason, “self-will”, as a “godlike” quality, is considered as God’s most precious gift to man; it is by means of this that the sharing of the divine good things is achieved.

The relationship between God the Creator and the human being is absolutely dual and unmediated. The Creator endows human nature with all those powers that can lead it to the enjoyment of divine goodness and salvation, provided that man desires their activation within himself. It is precisely this unmediated personal relationship that is safeguarded from any interference and influence of a third party –even God himself – by the free will’s «*αὐτοκρατές*» and «*αὐτεξούσιον*». The relationship of “resolution” and “free-will” leaves no room for interference with the will of third parties; otherwise not only the relationship itself is broken, but also the relationship with God, the sole Creator.

34. Gregory of Nyssa, *Λόγος περὶ φυχῆς καὶ ἀναστάσεως*, PG 46, 103: «*Η δὲ ἐλευθερία ἐστὶν ἡ πρὸς τὸ ἀδέσποτον τε καὶ αὐτοκρατὲς ἔξομοίωσις, ἡ κατ’ ἀρχὰς μὲν ἡμῖν παρὰ Θεοῦ δεδωρημένη, συγκαλυφθεῖσα τῇ τῶν ὀφλημάτων αἰσχύνῃ. Πᾶσα δὲ ἐλευθερία μία τίς ἐστι τῇ φύσει καὶ πρὸς ἑαυτὴν οἰκείας ἔχει. Ἀκολούθως οὖν πᾶν τὸ ἐλεύθερον τῷ ὁμοίῳ συναρμοσθήσεται; ἀρετὴ δὲ ἀδέσποτον. Οὐκοῦν ἐν ταύτῃ γενήσεται πᾶν τὸ ἐλεύθερον, ἀδέσποτον γάρ τὸ ἐλεύθερον».*

35. Gregory of Nyssa, *Εἰς τὸν Μακαρισμούς*, PG 44, 1256: «...πάντων ἀγαθῶν τὰς ἀφορμάς ὡς κατ’ εἰκόνα ἔαντοῦ ποιήσας τὸν ἄνθρωπον, τῇ φύσει τοῦ πλάσματος ἐναπέθετο, ὡς μηδὲν ἡμῖν τῶν καλῶν ἔξωθεν ἐπεισκρίνεσθαι, ἀλλ’ ἐφ’ ἡμῖν εἶναι ὅπερ βουλόμεθα, οἷον ἐκ ταμείου τινὸς προχειριζομένους τὸ ἀγαθὸν ἐκ τῆς φύσεως; [...] τὸ ποθούμενον καὶ τὸ εὐρεῖν τὸ ἡγητούμενον καὶ τὸ ἐντὸς τῶν ἐπιθυμουμένων γενέσθαι, ἐφ’ ἡμῖν εἶναι ὅταν βουλόμεθα καὶ τῆς ἡμετέρας ἔξηρτησθαι γνώμης [...]. Έκ δὲ τούτων ἡ αὐτοκρατής τε καὶ αὐτεξούσιος δύναμις, ἣν ἐνετεκτήνατο τῇ φύσει τῶν ἀνθρώπων ὁ τῆς φύσεως Κύριος, σαφῶς ἐπιδείκνυται, διὰ τοῦ πάντα τῆς προαιρέσεως τῆς ἡμετέρας ἡρτῆσθαι, εἴτε ἀγαθὰ εἴτε χείρονα; [...]».

The above could delimit in an admittedly coarse way the theological answer to be given to the parents of the mental experiment. What the parents are attempting to do with the genetic design of their child is an ill-conceived and distorting substitution for the role of the Creator. By modifying their child's genome with the "spirituality gene", they are arbitrarily and unauthorizedly interfering with the "changeability" of human nature, identifying it *a priori* with evil, and are essentially negating "free-will" by manipulating their child's "resolution" towards a certain direction. Having these intentions, self-identified Christian parents essentially violate the absolutely dualistic relationship between God the Creator and created man, attempting to substitute in some corrective ("ameliorative") way for the Creator; at the same time, they subvert a Christian anthropology that celebrates the *changeable* human nature when it is freely and autonomously combined with good resolution of mind.

According to the Church Father, even passions –which the parents of the mental experiment wished to genetically control in their future child – combined with freedom of the will, can bear fruit³⁶. Passions are rooted in external stimuli and are "movements" of the soul, inseparable from human nature, and can be particularly useful as motive forces for the pursuit of virtue, depending on their use by reason (mind)³⁷. All human characteristics can therefore be utilized, if man so desires, and contribute to the perfection and enjoyment of divine goods. Nothing is given by God as intrinsically evil, but its use *by choice* can lead man to become *a god by*

36. Gregory of Nyssa, *Λόγος περὶ ψυχῆς καὶ ἀναστάσεως*, PG 46, 56-7: «Καὶ μὴν ὁρῶμεν [...] οὐ μικρὰν ἐκ τούτων γινομένην τὴν πρὸς τὸ κρείττον συνεισφορὰν τοῖς ἐναρέτοις».

37. Gregory of Nyssa, *Λόγος περὶ ψυχῆς καὶ ἀναστάσεως*, PG 46, 59-61: «Ταῦτα δέ ἔστιν ὅσα ἐν ἡμῖν γινόμενα πάθη λέγε, ἀ οὐχὶ πάντως ἐπὶ κακῷ τινι τῇ ἀνθρωπίνῃ συνεκληρώθη ζωὴ; ἢ γάρ ἂν ὁ Δημιουργὸς τῶν κακῶν τὴν αἰτίαν ἔχῃ, εἰ ἐκεῖθεν αἱ τῶν πλημμελημάτων ἡσαν ἀνάγκαι συγκαταβεβλημέναι τῇ φύσει; ἀλλὰ τῇ ποιᾷ χρήσει τῆς προαιρέσεως, ἢ ἀρετῆς, ἢ κακίας ὅργανα τὰ τοιαῦτα τῆς ψυχῆς κινήματα γίνεται [...]. Ούκοῦν εἰ μὲν ὁ λόγος, ὁ δὲ τῆς φύσεώς ἔστιν ἔξαιρετον, τῶν ἔξωθεν ἐπεισκριθέντων τὴν ἡγεμονίαν ἔχοι, [...] οὐκ ἂν τι πρὸς κακίας ὑπηρεσίαν τῶν τοιούτων κινημάτων ἡμῖν ἐνεργήσει, τοῦ μὲν φόβου τὸ ὑπήκοον ἐμποιοῦντος, τοῦ δὲ θυμοῦ τὸ ἀνδρεῖον, τῆς δειλίας δὲ τὴν ἀσφάλειαν, τῆς δὲ ἐπιθυμητικῆς ὁρμῆς τὴν θείαν τε καὶ ἀκήρατον ἡμῖν ἥδονὴν προξενούσης».

grace or, in Gregory's phrase which is of most interest to this paper, "the father of himself".

The Cappadocian Father's phrase has been the occasion for the present paper to deal more extensively with his teaching on the issue under consideration, as it interestingly corresponds with Habermas's argument. For Gregory of Nyssa, the good practice of resolution leads to what he calls "becoming our own fathers": «έαυτῶν γὰρ τρόπον τινὰ πατέρες γινόμεθα, ὅταν διὰ τῆς ἀγαθῆς προαιρέσεως ἔαυτοὺς πλάσωμέν τε καὶ γεννήσωμεν καὶ εἰς φῶς προαγάγωμεν»³⁸. Or, in a free, "Habermasian" translation: "Somehow, we become integral creators of our self (our bio-history), when by the good exercise of our free will we create and give birth to our self and lead it into the light".

The correspondence between the two arguments is obvious; it is not coincidental. Both speak of autonomy; Habermas –and this is already important– goes so far as to set out its framework; Gregory defines its content and purpose, goodness and light respectively. The "integral creator of personal bio-history" is the same as the "father of his own self"; in both case, freedom of the will is the determining factor of self-determination and self-fulfillment. The need to constantly preserving the limits of autonomy is activated both in the context of the God-human relationship and in the context of the parent-child relationship: in the former, God endows man with the freedom of will and "binds Himself" to respect it out of love for him («δι' ὑπερβολὴν τῆς εἰς τὸν ἄνθρωπον τιμῆς»); in the latter, parents recognize the existential and ontological value of "genetic randomness", committing themselves to refrain from interfering with their choice by respecting the moral integrity and equality of their future child.

7. Clarifying Excursus

We need to clarify two things in order to avoid misinterpretation: First, the present paper does not seek to imply that Habermas was

38. Gregory of Nyssa, *Eἰς τὸν Ἐκκλησιαστήν*, GNO V, 380.

inspired –or even influenced– by Gregory of Nyssa. This would be the subject of a different kind of (historical-philosophical) study, and we have no intention to substitute it with the present paper. However, we safely argue that Kierkegaard had been taught the Cappadocian Fathers during his theological studies, knew Nyssa and was influenced by his spirit, which is in any case well known and widely accepted in the Protestant world and in Western philosophy³⁹. In this sense, Kierkegaard may constitute an underground stream that secretly and implicitly connects the Habermasian argument of existential autonomy versus eugenic ameliorative applications with the patristic teaching on autonomy and free will.

The second clarification concerns the ideas of autonomy and freedom, as expounded by Habermas and Gregory of Nyssa⁴⁰. The Habermasian invocation of autonomy is in no way identical with the patristic “resolution” or “self-will” nor can it be traced back to them. Even though it is fully anthropological and evaluatively meaningful in the issue under examination, Habermas’s Kantian perception of autonomy, which has universality as its main criterion of validity, whether in the context of moral humanity or a communicative community of equal and free citizens, is entirely different from the free and self-willing commitment of a person to the ministry and fulfillment of the divine word. Even reformulated as an existential autonomy that takes its context from the Kierkegaardian perception of God, sin, despair and redemption, the Habermasian conception of personal autonomy versus genetic manipulation claims

39. On this, see the following very interesting contributions: J. Ballan, “Gregory of Nyssa: Locating the Cappadocian Fathers in Kierkegaard’s Church-Historical Narrative”, in: *Kierkegaard and the Patristic and Medieval Traditions*, Ashgate, London 2008, pp. 95-102; P. Eliopoulos, “Eudaimonia in the theories of Soeren Kierkegaard and Gregory of Nyssa”, *Σχολή* II, 1 (2008), pp. 160-167; A. Hotojan, «Σ. Κίρκεγκωρ καὶ Γρηγόριος Νόστης. Διαλογισμοὶ στὴν περιοχὴ τῆς ὑπαρξιακῆς θεολογίας καὶ μεταφυσικῆς», *Ελληνικὴ Φιλοσοφικὴ Έπιθεώρηση/Elliniki Philosophiki Epitheorisi* 17 (2000), pp. 142-152. See also Morwenna Ludlow, *Gregory of Nyssa – Ancient and (Post)Modern*, Oxford University Press, Oxford – New York 2007.

40. I would like to express my warmest thanks for this remark made to me by George D. Panagopoulos, Professor of Dogmatics of the Orthodox Church at the Ecclesiastical Academy of Athens, during the presentation of a draft of the present paper at the Conference for the 100th anniversary of the journal *Θεολογία/Theologia* of the Church of Greece.

(more or less successfully) its adherence to a rational framework, which differs considerably from the (orthodox) Christian soteriology. These general remarks, however, do not obscure a very interesting tendency – modern philosophy’s approach to patristic theology –, which in this case was found in a re-baptism of the idea of autonomy, which is constitutive for modern philosophy, in its archetypal theological sources.

8. Conclusion

In this paper, we invoke the mental experiment to bring the issue of ameliorative genetic interventions closer to a religious audience, which for the most part is suspicious of –or condemns– scientific innovations and revolutionary technological methods. Despite the attempts in the recent decades for a dialogue between science and religion to be established, it is undeniable that the mutual reservations that have existed throughout modernity are still present. For this reason, the hypothetical use of a biotechnological development to serve a “higher” religious purpose serves only the needs of an unbiased and objective evaluation of it by similar audiences.

The biotechnological interventions in the human genome with the intention to “improve” or “enhance” biological characteristics are inextricably linked to the idea and issues of personal autonomy. However much the so-called “liberal eugenicists” may proclaim the biological and moral perfection of the individual and the cultural progress of humanity through the correction or elimination of “pathological” features of the genome, the question remains compelling: Who decides what is pathological and what is healthy, by what criteria and on the basis of what principles and values? Even more than that, on what moral grounds some people take decisions now for future generations, by irreversibly modifying their genetic code and depriving them of the possibility to critically review their choices? Under this prism, the dilemma “randomness or choice” turns out to be a false one, as both of its parts are revealed to be not addressed to personal volition.

Whether by Habermas's argument of autonomy or Gregory of Nyssa's teaching on «προαιρεσις», ameliorative genetic choices such as those of the parents of the disputed mental experiment have no moral or theological basis. Just as man from modernity onwards cannot be understood apart from the idea of autonomy, so the Christian's path to salvation cannot be understood as an automatic or manipulated process, divorced from his free will. Any attempt by parents to question and control in advance the free will of their child and to artificially remove any supposed obstacle becomes clear that it constitutes impermissible paternalism; it is an offence not only to personal autonomy but also to God's gift of freedom.