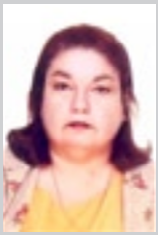
Neoeugenics: the limit betwen therapeutical or reproductive genetics manipulation and human species biotechnological selective practices

Ivana de Oliveira Fraga
Mônica Neves Aguiar

Resumo Este artigo tem como objetivo estabelecer paralelo entre as técnicas biomédicas adotadas nas terapias gênicas e nas práticas de reprodução assistida. Neoeugenia designa as práticas seletivas da espécie humana mediante manipulação gênica proporcionada pelas novas técnicas biomédicas. Discute as repercussões da medicina preditiva, a discriminação genética, as consequências dos possíveis erros ocasionados pela adoção dessas práticas, bem como o reflexo das práticas biotecnológicas na esfera dos direitos fundamentais dos indivíduos. Sua conclusão aponta a necessidade de fixar critérios para determinar o início da existência dos direitos individuais, garantir sua observância e viabilizar o respeito à liberdade, identidade e intimidade genéticas, de forma que o genótipo humano (manipulado ou não) não venha a ser fator impeditivo ao gozo dos direitos fundamentais já assegurados.

Palavras-chave: Bioética. Biotecnologia. Eugenia.



Ivana de Oliveira Fraga
Working in her Master's degree in Law at the Federal University of Bahia (UFBa),physician and Human Reproduction and Ultrasonography especialist, lawyer, and member of the Brazilian Bioethics Society

Eugenics, despite the several ways of its externalization in history, having as goal the selection of so-called *favorable* characteristics of human species (even if at expenses of sacrificing other very valuable assets, such as basic rights), gets to our days with a worrisome and dangerous attire: that of genetic manipulation. Chromosome manipulation became not only possible but real, serving to legal or illicit objectives, providing slow and gradual modification of species genetic content (in immediately transmissible, germinal gene therapy case).

Primary goal of current article is to set a threshold zone between merely therapeutic or reproductive practice and those targeted with frank and insidiously eugenics aims, as to set apart effects that translate in real benefits for human species from those trying to serve other interests.

Mônica Neves Aguiar
Federal Judge, coordinator of Law graduate program at the Federal University of Bahia (UFBa), professor in undergraduate and graduate course at UFBa Law School, and member of the Brazilian Bioethics Society.

Current eugenics practices, usually disguised under promises of healing or solution of organic problems for the species, but often serving economic and political interests, have a deleterious face, mainly related to distressing personality rights. It is well known also that frequent genetics changes may cause modification in human genome, which reflexively will cause deviation in species natural development and unbalance in several terrestrial biological systems.

Traditional eugenics

Eugenics temptation, that is, a permanent concern related to what is understood, as species enhancement, mostly through its offspring, is remote in humanity history, usually thought by means of the biological bias, although one should not spurn innumerous attempts to select psychic and intellectually more apt beings. Plato, in The *Republic*, assures that it is *necessary, according to our principles, that relationship among more gifted individuals, from both genders, to be more frequent, and among less gifted ones more scarcely; additionally, it is necessary to raise children of the first and not of the later, if the flock is not to degenerate* [1].

Equally, Daniel Soutullo [2] reports that Aristotle and other later scholars – like Campanella and Condorcet – make references in their works on frankly eugenics practices. Andorno [3], in his turn, states that Condorcet intended to build, from science, a new society where they would not be social difference, nor diseases or any type of ignorance.

Francis Galton's eugenics

It is understood as eugenics a set of techniques or procedures capable to *enhance* human species. This neologism, which conjugates the senses of I, *self*, and genus, *species*, *race*,

lineage, used for the first time in England, in 1883, by sir Francis J. Galton, in the book *Inquiries into human faculty and its development*, in which one reads: *race breeding, or how should we call it, the eugenics issues, are issues that deal on what Greeks called eugenic, that is, of good race, of the hereditarily gifted with good qualities. This and words related to it, like eugenics etc. are equally applicable to men, animals, and plants*[4].

Galton defined *eugenics* as the study of agent, under social control, who can enhance or impoverish racial qualities of future generations, either physical or mentally[5]. As one gets out of it, Galton's thought (who wanted eugenics theory replacing natural selection when it came into decline) was directly influenced, as well as the majority of scholars of his time, by Charles Darwin's ideas.

Galton was responsible, however, for structuring and applying scientific methods, mainly statistical and mathematical, as to promote elimination of unwanted physical and psychic features, by means of eugenics practices. According to Soutullo[2], references to evolutional considerations were an analogy that granted scientific attire to a markedly social doctrine, in accordance to a purely ideological conception.

Eugenics practice expansion

Eugenics thesis grew mostly in the United States, where due to immigration of peasants coming from Europe, steps were taken favoring marriage among people with *better* biological and moral qualities (positive eugenics techniques), as well as through mass sterilization practices (negative eugenics techniques), searching to select more apt individuals to constitute a super Nordic race.

Basic rights affront had its pinnacle in Nazi Germany during WWII, in 1943, when Josef Mengele, in Auschwitz, tortured twins until death, in a grotesque parody of a scientific research aiming at understanding heriditariness[5]. The world still saw at that time, extermination of thousands of Jews by the Third Reich troops under the pretext of creating a superior race: Aryan, serving a frankly genocide ideology.

Renato Kehl and Belisario Penna chaired the Eugenics Central Committee, created in Brazil, in 1931. This entity proposed the end of non-white immigration *to promote and to assist scientific or humanitarian initiatives with eugenic features that deserved consideration*[6]. The precarious status of the Brazilian public health and its consequences were seen as the outcome of hereditary degeneration experienced by the population, what emerged the sound bite among Brazilian eugenics: *to sanitize is to Eugenie* [6]. The pinnacle of domestic eugenics actions was seen in psychiatry realm, where eugenic programs were undertaken to segregate and mandatorily sterilize mental diseased as a way to exclude from population this lineage of descent.

Eugenics classificatiion

Schramm[7] defines eugenics as a 19th century generic expression that points to a science studying the most propitious condition to reproduce and enhance human species; eugenetics represents contemporary expression of eugenics, a techno science appearing in the 1970s, in the meeting between genetics, biology, molecular biology, and genetics engineering. Still, according to the author, eugenics techniques can be classified in two paths [7]: the first, positive eugenics relates to practices aiming to favor a selection of desirable features of the species, like leading marriages of convenience in order to perpetuate a determined feature and, currently, like gametes selection or more genetically more favored embryos. The second, negative eugenics, works by eliminating genetically incapable future generations – the sick, racially unwanted and economically impoverished – by means of marriage bans, contraception and compulsory sterilization, abortion, and just sheer elimination of human beings [5].

The negative modality, much more efficient and secure to achieve its objectives, and preferably adopted by humankind throughout history. Habermans [8] supports eugenics practice as long as they are exclusively therapeutics, considering its use in a neutral State allowing that individuals to exercise their autonomy. In parallel, he warns about the risk of authoritarian eugenics, solely determined by the State coersive force, as well as about the liberal eugenics, when there is a radical expansion of thes liberties.

Neoeugenics

After a latency phase, new discoveries of human genome and perfection and dissemination of assisted reproduction practices provide a huge instrumental potential do eugenics thought [9]. Denise Hammerscmhidt[10], agreeing with this statement, assures that biotechnology, it provides at same time an increasingly broader knowledge and accurate about the human genome, serves as dissemination tools of neoeugenics practices.

Romeo Casabona [9], in the same token, adds that genetic knwledge does not restrict only to organic diseases, but mental disorders, certain behaviors considered as deviant, attitudes, skils, and neediness. According to him [11], eugenics thought aims at protecting human species (or its survival) and to improvement of individual and collective social conditions. He states, still, that contemporary neoeugenics most common practices *would be, negative eugenics measures, contraceptives, sterilization (voluntary or forced) and abortion, and positive eugenics would be assisted reproduction and therapeutical gene techniques* [12].

He adds that ban of marriages, genetics Advice and prenatal diagnosis, followed always by therapeutic abortion, as well as sheer physical elimination by either infanticide or euthanasia can be considered as negative eugenics. As well, stimulus to breed, either economic or in form of social privileges, eutelegenesis (germinal selection by means of sperm bank), cloning and parthenogenesis are considered as positive eugenics.

Some procedures can also be classified as mixed, that is, they congregate both types of eugenics, such as, for example, pre implantation genetic diagnosis (PGD), followed by embryos selections; preconception diagnosis, followed by gametes selection; and germinal gene therapy [13]. However, there are authors, like Luján, who see neoeugenics restrictively in order to exclude therapeutic and humankind reproductive practices from the concept: *when nowadays it is said, for example, gene therapy of germinal cells, of forecasting parental gene and prenatal exams, as well as reproductive technology, reference is been made to problems that should be classified as merely sanitary* (...). *Use of human genetics engineering and reproductive technologies to solve these problems, but they cause major social and psychological impacts, but, in my opinion, has little to do with eugenics traditional concept* [14].

The larger portion of the doctrine, represented by Daniel Soutullo, J. Testart and Carlos Romeo Casabona, adopts a broader meaning for Neoeugenics, which characterizes as any individual or collective intervention that modifies hereditary genetic heritage, independently of pursuit sanitary or social goals, arriving to nominate the segment that leads to eradication of therapeutical eugenic pathologies [15].

This trend of thought argues that not always is easy to separate normal from pathological, mainly about socially less desired characters, since many status or behaviors can be considered ad deviated, depending the location and time like homosexuality, considered as for decades, for example.

Differently from traditional eugenics practices, which usually encompassed a large number of people, neoeugenics practices relates to the individual realm. They are pervaded often by patient-physician relationship, since they are always pertinent to health of an interested individual or couple, to the concept (when dealing with assisted reproductive techniques), their family members, and future generations, through the possibility of not preserving human genome, which is species heritage.

In reproductive realm, for example, neoeugenics practices from preconceiving diagnosis, undertaken with the couple aiming at ensuring healthy offspring. Exams undertaken in foetus *in the womb*, targeting its morphological regularity, as well as pre implantation diagnosis conducted in the

Zygote before transfer to receptive women womb, try to get off existing genetics pathologies. These procedures are liable to generate negative eugenics, either by ban on gestation between carriers of genes carriers of hereditary pathologies or by discharging of embryos with unwanted genetic load.

These same techniques, in parallel, induce conduction of a positive eugenics, when gametes or embryos with greater chances to lead to formation of a healthy human being. Thus, it is patent that what will guide ethical acceptability of gene screening is its intention and voluntary. It is important to stress that State coercitive interference regarding reproductive responsibility of its citizens is always deleterious. The Council of Europe, through its Recommendation 13, establishes for all cases of predictive exams the requirement of informed consent, additionally to guarantee of privacy, in terms that information can only be available to stakeholders or their legal representatives (excluding, therefore, even the other spouse in case of prenuptial exams).

Badalotti [16] understands as gender selection *using of medical technology to determine the gender of an offspring comprising any practice, technique, or intervention aiming at increasing the chances of conception, gestation, and birth of a child of one gender or the other*.

The Federal Council of Medicine, in its turn, by referring to gender selection, establishes that *assisted reproductive techniques should not be applied with the intent to select gender or any other biological features, except when are to avoid diseases connected to gender of the offspring to born* [17].

Eugenics and basic rights

Since human genome constitutes a common humankind heritage, it configures its protection as one of fourth generation basic rights, enjoying, therefore, particular legal protection, granted by the constitutional text of majority of countries. The right to live, the pinnacle of all individuals, presupposes singularity or unfungibility of each human being, in accordance to Article 3 of the *Universal Declaration on Human Rights*. Thus, it is of primary importance to determine some of the constitutional principles that bonds ordinary legislator regarding normative regulation of issues related to eugenics [18].

Paulo Otero [19] advocates existence of three elements with constitutional basis that conditions legal discipline of the scientific progress in terms of bioethics: personality, personal identity, and genetics identity. He understands that, concerning recognition by Law of a determined susceptible reality of be entitled to rights and to have obligations, transforming, thus, it enter carrier into a person (in case of individual) [20].

Thus, Law can and must intervene in human being tutelage independently of the moment that legal personality is acquired [21], since the right to inviolability of life and respect to dignity are intrinsically linked to it, primary, superior and causal value, but never a variable derivation according to birth instance[22]. Therefore, life configures as the first manifestation of dignity granted to a human being [23]. It is necessary, in view of the exposed, to project the impact provided by gene manipulation techniques, even if justified by altruistic aims in regarding to its repercussion in basic rights sphere as a way to ensure the joy of exercising these constitutionally assured prerogatives.

Final considerations

As Roque Junges states, *the knot of biotechnologies issues in human reproduction is the difficulty in assuming and transignify limits, created by the desire of omnipotence and by offer of sense, given by techniques themselves*[24]. Thus, it is understood that acceptable limit for biotechnology application is that strict beneficence, beyond which all practice must be considered as eugenics and, therefore, abusive. In this direction, Habermans advises: *the way that we deal with human life after birth (or with people, after their death) affects our self-comprehension as beings of the species. In addition, representations of ourselves as moral persons are strictly intertwined with this ethical self-comprehension of the species* [25].

Parallel, it is urgent to start a temporal expansion in the realm of personality's rights, in the way that reproductive cells are viewed as *cradle* of a new being, avoiding that gene manipulation practices may, by modifying individual's genome, limit the enjoyment of personality's rights, constitutionally assured to all.

Resumen

Neo-eugenesia: el límite entre la manipulación génica terapéutica o reproductiva y las prácticas biotecnológicas selectivas de la especie humana

ste artículo tiene como objetivo establecer un paralelismo entre las técnicas biomédicas adoptadas en las terapias génicas y en las prácticas de reproducción asistida Neo-eugenesia se refiere a las prácticas selectivas de la especie humana, mediante la manipulación genética proporcionadas por las nuevas técnicas biomédicas. Se discuten las repercusiones de la medicina predictiva, la discriminación genética, las consecuencias de los posibles errores causados por la adopción de estas prácticas, así como el reflejo de las prácticas de la biotecnología en el ámbito de los derechos fundamentales de los indivíduos. En la conclusión se señaló la necesidad de establecer criterios para determinar el inicio de la existencia de los derechos individuales, para garantizar el cumplimiento y facilitar el respeto a la libertad, la identidad y la intimidad genética, de modo que el genotipo humano (manipulado o no) no sea un impedimento para el disfrute de los derechos fundamentales ya asegurados.

Palabras-clave: Bioética. Biotecnología. Eugenesia.

Abstract

Neo-eugenics: the limit between genetic manipulation for therapy or reproduction and the selective biotechnological practices of the human species

This article's objective is to establish a comparison between the biomedical techniques used for genetic therapy and for the practice of assisted reproduction. Neo-eugenics designates the human selective practices carried out by genetic manipulation, made possible through new biomedical techniques. There is debate regarding the repercussions of predictive medicine, genetic discrimination, the consequences of possible errors caused by the adoption of these practices, as well as the effects of biotechnological practices on fundamental human rights. The conclusion is that there is need to establish criteria to determine the point where individual human rights begin, to guarantee observance, to respect and assure freedom, identity and genetic intimacy, so that the human genotype (manipulated or not) does not become an obstacle for the benefit of the fundamental rights already assured.

Key-words: Bioethics. Biotechnology. Eugenics.

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Contacts

Ivana de Oliveira Fraga – *ivafraga@yahoo.com.br*
Mônica Neves Aguiar – *monicajf@svn.com.br*

Ivana de Oliveira Fraga – Rua Tenente Fernando Tuy, n.º 131, aptº 1302. Pituba CEP 41810-780. Salvador/BA, Brazil.