

## Social and Ethical Risks and Benefits of Human's Genetics Modifications

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**Abstract:** This article is devoted to genetics consideration in the focus of ethic discussions: between the good, the useful and the prevention of risks. In the centre of problems I must place balanced ethic principles which let genetics combine, firstly, the good as a particular kind of spiritual benefit in the sphere of human behavior; secondly, the useful, understanding it as the result of the focused and quick improvement of the environment and the human body and, thirdly, the serious risk of unpredictable consequences and non-medical use of genetic experiments.

**Key words:** Ethics • Genetics • Genetic modifications • The prevention of social risks

### INTRODUCTION

Since its first discoveries, genetics has become 'the stumbling-block' of fighting tendencies in ethics, science, religion, politics, law and public opinion. The problem is that fantastic ideas of a perfect man with determined characteristics, the possibility to wipe out terrible illnesses, to revive the extinct species of flora and fauna, the dream to become the co-creator of evolution – all this is not just bold projects of the far-away future, but real goals set by genetics. However, beyond the great perspectives and the progress in science there takes place a certain sliding beyond the human in man, which is caused by progress in biotechnology and enhanced by its resources. Beyond fantastic scientific potential and economic profit of gene and biotechnologies there is hidden the potential danger of total control, deliberately provoked social inequality and man's self-determination crisis. Of course, we don't mean banning genetic research and technology, their benefits are clear and attractive to mankind. In the centre of discussion we must place balanced ethic principles which let genetics combine, firstly, the good as a particular kind of spiritual benefit in the sphere of human behavior; secondly, the use, understanding it as the result of the focused and quick improvement of the environment and the human body and, thirdly, the serious risk of unpredictable consequences and non-medical use of genetic experiments.

### Understanding of the Good and Benefit in History of Philosophy:

Starting from Aristotle, the Good was deducted from a more general concept – the Benefit. The Benefit is a positive meaning in general; the Good is anything that is positive from the point of view of moral. The word 'benefits' is used to call different things – from the achievements of progress in science and technology to warm relations, that is all that has a positive meaning in the life of people, everything that can be useful in general, while the Good - an ethic characteristic of human existence – helps to show up the best qualities which determine the essence of a human. In "The Phenomenology of Spirit" Hegel connects the good with the humanization of people's relations understood as 'substantial existence for subjective will', which suggests not only understanding the good, but also its realization in intentions and actions [1].

However, as any moral concept, the good is something socially and culturally determined, that is it depends on the outlook and interests which are dominant in this age, the traditions, intentions and needs of different socio-professional, gender and age groups, conflicting systems of values, a person's varying ideas of his/her own benefit.

Do the achievements of genetics really increase the amount of the good in modern world? In modern medicine, for example, there are methods of restoring the muscular function of dystrophic and elderly people with the help of genetic modification of muscles. The work in this direction

was actively carried out in the University of Pennsylvania from the mid-90s. The supervisor of the project Professor Lee Sweeney is convinced that the technologies of genetic doping have great perspectives not only for practical medicine but also will make possible genetic modification of a human being by adding or substituting genes [2]. Doping in sport is now a reason for serious conflicts and disqualifications, because sport achievements are supposed to be the result of effort to develop the human body itself. Genetic modifications will not only increase man's abilities, strength or flexibility, but also will raise the question of man's self-identification, the essence of human nature itself [3-4].

#### **Genetic Modifications and Their Social Consequences:**

Andy Miah, the author of the book "Genetically Modified Athletes", considers human nature through the combination of anatomy, self-identity and dignity, that is the condition for the formation of firm moral criteria which motivate human activity [5]. As the main element of the concept of human nature the author considers unique features of man. Genetic modeling will make it possible to deliberately construct the characteristics and abilities aimed at given purposes. As a result, a human's life as well as any other form of life will gain the status of artifact and will lose their own value, gives his fair opinion R.R. Belyaletdinov, modern Russian philosopher from the Institute of Philosophy (Moscow) [6-7].

#### **Problems of Ethical Comprehension and Legal Regulation of Genetic Experimentations:**

The technologies of studying and interfering in human genetics, connected with the threat for the present and future generations, can't be carried out without ethic and legislative basis. Not technical devices themselves are dangerous. The true danger has already approached man in his own nature, supposed M. Heidegger. The real problem is man's losing clear ideas of where he can interfere in 'the natural', for after deciphering genetic information there logically arise questions about the possibility to cure genetic diseases and then prevent them by substituting pathologic genes or creating new ones, in this way producing a new, so far unknown to nature creature [8].

Meanwhile, many scientists seriously discuss the problem of protecting intellectual property, author's rights and patent rules of the discovered sequences of DNA. On the one hand, human DNA symbolizes something which is important and defines human dignity and unique

nature. On the other hand, DNA could become kind of goods in the hands of the owners of DNA-patents which can limit the spread of information and interfere with making new medicines. The patent system is supposed to encourage innovations and improve people's well-being [9]. However, the owners of the patents, who have probably made rather a small contribution to deciphering DNA, will gain too much control over using it. The companies making medicines will have to buy licenses from a few patent-owners, which could make medical research very expensive. And this, in its turn, will make genetic therapy unaffordable for the poor, thus increasing social inequality. Even more dangerous can be a commercial approach to the perspective heredity, imposing a certain range of values on the society, thus limiting the freedom of choice. Intervention of market relations in medicine can destroy the fundamental principles of bioethics: not to do harm, to do good, to respect the autonomy of a personality, the principle of justice. The most danger comes from the fast and almost uncontrolled development of pharmacological genetics [10-11].

#### **Prophylaxis Instead of Treatment: Is it Moral?:**

One more specifically genetic moral problem is that only for a small number of hereditary diseases there exists a more or less effective cure. We mostly have to restrict ourselves to taking preventive and diagnostic measures. This accounts for the existence of such specific questions as diagnostics of this or that pathological condition being ethic if there is no efficient cure for it. Even if this information contributes greatly to the development of science, do we have the right to lay this psychological burden on a suffering person?.

Medical discoveries must be considered in the context of the universal good and provide access to the new technologies to all the people who need it. However, there arises a moral problem of the balance between the universal good and the individual use for a particular patient. This problem is connected with the specific features of genetics. Here comes out a whole range of complex dilemmas which concern vitally important interests of family and society in general. For example, it is a well-known fact that hereditary diseases, though found with particular individuals, as a result of reproductive processes are inherited by their descendants. Thus, there is an urgent problem of the protection of private life, confidence and the right of the relatives for genetic information, which will help them to

prepare for the future, correct their plans, start the treatment at an early stage, get an education, make a career, etc. [12-13] On the other hand, very often information concerns the hereditary disease that the family are prone to. That is the future illness which has not shown up yet. If a person corrects the diet or the way of life, for example, the illness might not develop. There is a scientific name for this phenomenon – ‘self-destructive prognosis’ in case of negative dynamics supposition. The person who has made considerable effort and invested a considerable amount of money to prevent the future illness, is torn by doubts whether all this was necessary and justified and to what extent.

The problem of keeping the genetic information confident and using it legally can be placed on the social level, if we speak about the accessibility of personal information to insurance agencies, employers, court, educational institutions, adoption agencies, military organizations and special services.

Besides, there is a real danger of genetic information misuse, where this information can lead to different forms of discrimination, psychological pressure, stigmatizing. There arises a question, perhaps the most important one, which sets the scale of evaluation: to what extent do genes determine the personality and the acceptance of the person by the society? This is emphasized by Margaret R. McLean, Ph.D., a specialist in ethics in biotechnology and public health care the Markkula Center for Applied Ethics [14]. She warns against mixing up the concepts of ‘genetic identity’ and ‘personal identity’, against simplifying man to the sequence of genes, which can be considered as undermining his dignity. There can be dangerous a point of view that genes are more powerful than the influence of the environment and that is why our actions must be considered as ‘genetically predetermined’ and not as a result of man’s free will. Thus, for example, there is a supposition that the carriers of the karyotype 47, XYY are genetically predisposed to committing crimes. Must they, however, hold responsibility for them?

### **CONCLUSION**

If we understand and consider a human as a combination of biological data, then it will inevitably lead to the idea of selecting the best or necessary and the whole ethics is limited to counting, weighing the advantages, rights, interests and use. Such attitude was called by the famous Russian philosopher Nikolay

Berdyayev ‘the criterion of human-god’ in contrast with Vladimir Solovyov’s God-like humanity. For this philosophy the highest ideal and standard is the human, withdrawn from the true basis of his nature.

Once J. Moor spoke about the naturalistic mistake in ethics. It consists in restricting moral values to natural-psychological basis, like, for example, in the hedonistic principle ‘pleasure is the only good’. If the good is deprived of its moral definition, it will inevitably turn into ‘the right as a advantage’. In order to avoid ‘the legal mistake’ of anthropocentrism (according to I.V. Siluyanova), mankind is yet to re-consider the traditional moral and outlook principles of the biogenetic way to the well-being and thriving of mankind. Probably, it must be some ethic imperative which coordinates the long-term perspectives of human activities and which directs to hold responsibility for them taking into account the interests of future generations [15].

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