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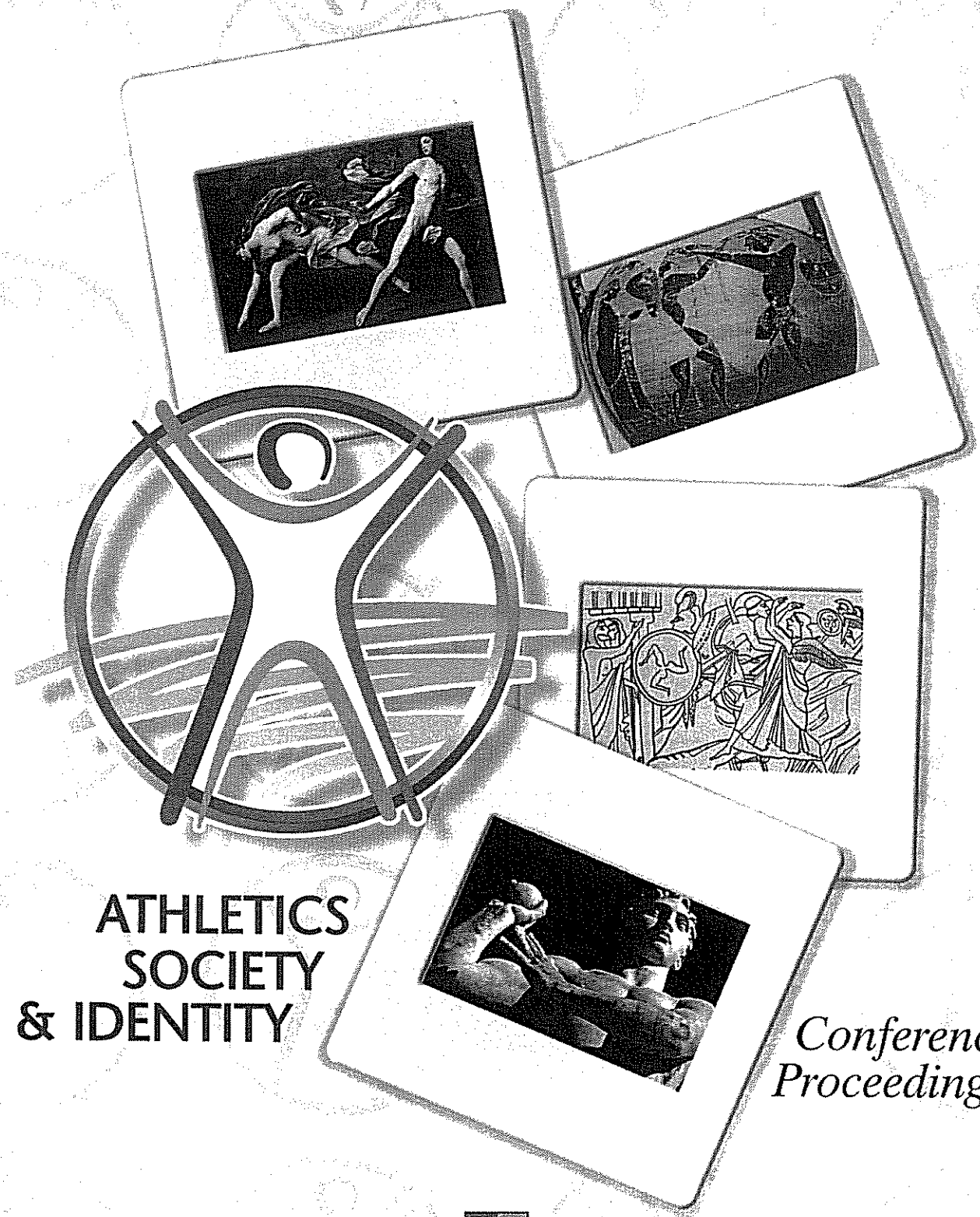

ATHLETICS SOCIETY & IDENTITY

Conference Proceedings

FOUNDATION OF THE HELLENIC WORLD

SPORTS AND TECHNOLOGY GENETICS: THE CLONED ATHLETE

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Περίληψη

Οι πρόσφατες εξελίξεις στη βιολογία και τη γενετική έχουν ιδιαίτερη επίδραση στον άνθρωπο και ιδιαίτερα στον αθλητή-άνθρωπο, εφόσον οι πιθανότητες της ανθρώπινης κλωνοποίησης και η δυνατότητα να δημιουργηθούν οι συνθήκες που θα επιτρέψουν την παραγωγή βλαστοκυττάρων ουσιαστικά οδηγούν στη δημιουργία των οργανικών κυττάρων που συνεισφέρουν στην αναγέννηση του σωματικού ιστού. Ο προβληματισμός επί του ζητήματος επικεντρώνεται κυρίως: α) στο κατά πόσο μια τέτοια επιστημονική εξέλιξη συνιστά παρέμβαση στη βιολογική κατάσταση του ανθρώπου και β) στο αν μια τέτοια πράξη είναι ηθικά αποδεκτή ή όχι. Οι υποστηρικτές των εξελίξεων που προαναφέρθηκαν θεωρούν ότι οι ηθικές αντιρρήσεις εμποδίζουν την ανάπτυξη σημαντικών τομέων της πρόσφατης τεχνολογίας, η οποία επιτρέπει τη βελτίωση των συνθηκών διαβίωσης. Αντίθετα, οι επικριτές ισχυρίζονται ότι αυτή η επιστημονική πρόοδος συνιστά στην πράξη παρέμβαση στην ιστορική και φυσική συνέχεια του ανθρώπινου είδους και περαιτέρω μια ξεκάθαρη ηθική προσβολή των ανθρωπίνων δικαιωμάτων.

Introduction

The first, perhaps, attempt at altering the human body could be traced back to Greek mythology and the example of Procrustes, the robber in the myth of Theseus who preyed on travelers along the road to Athens, offering them hospitality and a bed to sleep in. Procrustes, using the bed as an arbitrary measure, would, without any moral inhibitions, "adapt" the traveler to the bed. If the guest was too tall for the bed, he would chop off the legs overhanging from the bed while, if the guest was shorter than the bed, he would violently stretch the guest. Much later, Frankenstein came to shock the literary world with the morbid imagination of his creator, Mary Shelley, who dared to describe the artificial creation of a monstrosity comprising a piecemeal combination of human parts in the laboratory.

Looking at the historical side of this theme, one sees that systematic intervention on the human body, aimed at its spectacular differentiation or "athletic" performance, is not a modern-day phenomenon and did not suddenly appear by parthenogenesis in contemporary science. There has been a steady, ideological maturation, over the course of time, of a phenomenon that originated, perhaps in its primitive form, in the Roman Period. There, in the Gymnasiums, through excessively strenuous exercise and practice in the strenuous sports, the development of the professional and spectator aspect of physical violence, one can trace the origins of doping and bodily alteration. This corruptive attitude to the human body was halted during the Christian era, with some revivals, however, particularly during the 18th century, with ethnic characteristics. Following the mid-War period, the 1936 Olympic Games, despite the well-known racial characteristics that marred it, comprises one of the last impressions of the idealized image of classical athletics. The denuding of the athlete is still a physical one, resulting in the more practiced athlete winning the competition.

After World War II, the humanistic character of science was already under attack due to the conditions of intense antagonism. The problem of loss, or limitation, of the ethical order of science noted after the war is the result of the value-oriented system of society rather than of a specific and limited social group, such as the athletes, for example. The fundamental societal perceptions formulated in the contemporary world are characterised by lack of mutual respect and utilitarianism. It is not only the prestige that acts as an aspiration for the athlete, but also the fact that his Olympic success translates into a goldmine of money that ensures him a comfortable livelihood for life. Also, the molding of a body into an "athletic body", transforming it into a balloon with bloated arms, is an impression-making shape arising from the diffusion of a corresponding social attitude. This attitude, on the bottom line, creates faulty models with all the repercussions entailed, while it also cultivates a perception that carries on those models and gives them mythical proportions or idealizes them. Thus, degenerative phenomena are caused because the sense of measure is lost.

Modern bio-science and bio-ethics

Modern-day bio-science has developed to such levels that it frequently exceeds the limits of science fiction, and consequently the

boundaries between scientific truths and lies are no longer clearly discernible. What, indeed, is taking place in the specialized laboratories? How far have genetic experiments gone? To what degree do they intervene with the essential substance of the human being? Are human rights respected? And, on the bottom line, do all these achievements contribute to social development or do they perhaps portend the destruction of human existence itself?

It is a fact that the rapid scientific developments in the area of biotechnology and genetics are somewhat more advanced than human conscience, and the latter has trouble keeping up with and absorbing the former. Thus, the global dialogue on bio-ethics that has developed among biologists, theologians, legal experts and philosophers, arises from the mainly ethical dilemmas that ensue: Is technological intervention on the human body morally acceptable? To what degree are uniqueness of the individual and respect of nature taken into consideration in these developments? Which are the necessary ethical conditions that ensure the human being as a value?

Among the modern achievements of the relevant research, perhaps the two most important are the "breaking" of the human genetic code, and cloning. The former is expected to lead to the determination of the human DNA, so that everyone will be able to learn his genetic identity as easily as his blood type. The latter – the cloning of human tissue and the creation of conditions for producing stem cells – in essence means the creation of organic cells that contribute to the regeneration of the body tissue. This prospect is mainly destined for therapeutic or pharmaceutical use, but does not exclude the possibility of experimentation for reproductive purposes.

The international concern that has already arisen on this matter may be synopsized in two perspectives: a) to what degree does such a scientific development constitute intervention on the biological essence of the human being, and b) to what degree may such an act be considered morally acceptable of not. Two tendencies have been created among the camps of the proponents and opponents of genetic experimentation. The opponents consider this scientific development as an intervention on the historical and physical continuation of the human being and as a clear-cut ethical violation of human rights. According to this theory, the worry surrounding this issue dramatically concerns human survival itself and all its forms, given that reproductive cloning and other interventions in the genetic material have repercussions a) on

the autonomy and fundamental rights of the human being, and b) on the ethical convictions of the social whole.

The proponents of genetic experimentation, conversely, consider that any moral objections are an inhibiting factor to progress in important areas of modern technology that enable improvement of the quality of life. The imminent reality of the new technology must be treated seriously but, according to this viewpoint, without aphorisms, given that the effort to obstruct a specific area of research could act as an impediment to the development of another area, thus reducing the prospects for finding cures for such illnesses as Alzheimer's disease, Parkinson, and cancer. Thus, we are obliged to make choices that will balance all the incompatible factors, weighing whether our inhibitions concern the technology of cloning itself or simply its uses.

Genetic technology and Athletics

The progress in biology and genetics directly influence the human being himself and the human-athlete. The spectacular development in these two fields in recent decades, and especially in genetic techniques, creates intense concern as to where the modern-day world and, by extension, the modern-day athlete, may be heading. Sport, as one of the social activities in which the exclusive protagonists are the two human hypostases, namely the body and mind of the athlete, is one of the crucial focal points of this international concern, due to the impact of these specific developments. The dialogue determining the relationship between bio-ethics and sport was prompted by the agonizing effort by some champions to amaze the public and, abolishing basic principles of physiology, to achieve high performances in competitive sport, which, however, were later proven to have been due to the use of chemical substances, a practice consciously resorted to by the athletes, rather than to the physical exercise of the human body.

The revelation that the champion has resorted to chemical aids and hormonal substitutes in order to achieve athletic success is usually accompanied by disappointment and social disapproval. But it cannot be incidental that the use of such specific substances and hormones is becoming more widespread, rather than being contained, while at the same time increasingly more advanced, non-traceable practices are being discovered. The doping of athletes for the purpose of strengthening their muscular and physical condition has, in our day,

evolved into a medical and pharmaceutical science, with which a specialized high-standard athletic industry is involved in full-time in the laboratories.

The development of genetic technology has naturally given rise to a major upset in the world of competitive sport, as some sides fear that, soon, the athletes will be genetically modified individuals and, consequently, the fight against the use of chemical substances in athletics will no longer be of any value. In other words, it is feared that the use of chemical substances will be followed by genetic modifications, and in a very effective way at that, as the introduction of genes into an athlete's body, with the help of a mutated virus, will make tracing it practically impossible. The creation of an athlete could also be achieved through the transplantation to the athlete of a specific organ, such as a kidney or heart, or nerve cells, capable of improving his speed, stamina or heart function, and thus enhancing his physical performance. Finally, it would also be feasible to create a cloned athlete, with the total reproduction of a charismatic high jumper or runner or boxer, whose genetic material is used, provided the primary gene is used. Thus, one who wanted a runner could produce one in the laboratory provided he could purchase the appropriate genes or corresponding types of organs.

Consequently, a genetically modified Olympic victor is theoretically on our threshold. The mutated athletes would be able to awe spectators with their high performances and, finally, to cash in on them socially and financially, without running the risk of any violation being traced. In tandem, genetic technology, by offering new super-human performances, would skyrocket the spectacle of sport, injecting the sport market with spectacular records.

But how does one view these above descriptions? As proof of technological development, or as a nightmare? The reply given by each individual is determined by that individual's subjective stance on this issue, his own personal bio-ethics. Another critical question that brings every individual face-to-face with his responsibilities is: Would that individual agree to his own child undergoing such genetic interventions in order to ensure an Olympic success, at any cost? What are the fears and quandaries in making such a decision?

Genetic modification of the embryo

Genetic modification of the embryo (for the purpose of improving its physical condition) most certainly presents numerous parameters. This paper mainly deals with the ethical and humanitarian side of the issue, as it appears that the initial spore of desire for genetic upgrading emanates perhaps from the human being's deep agony – being the only living species aware of the transciency of his existence – to find ways of extending biological life, or even the survival of one of his organs. The search for longevity has always been the springboard for numerous studies which, culminating in the telomerase theory, have led to a possible deceleration of the aging process and, in the future, perhaps even to the achievement of immortality.

In the field of genetic technology, a fervent human desire is control of the gender, or control of other desired characteristics of the human being, such as height, eye or hair color, personality traits, etc. But don't these adjustments, however, pose a risk to human societies, as they alter physical ratios, leaving them to the whim of personal choice? Is not social balance at risk from the use of new bio-medicines which, in the hands of cunning individuals could be turned into weapons of dependence and regimentation? Transplants, too, which constitute a major hope for ailing individuals, if used some day to provide improved organs (lungs, muscles, spleen, etc.) for the purpose of creating Olympic victors, will they not cause confusion with respect to natural selection? Isn't all this excess of the norms a provocation against nature, and doesn't it entail hazards to the human health?

Genetics puts forward a huge canvass of new quandaries on the ethics of modern-day athletics, the most characteristic of which is, perhaps, its antithesis with the human being's freedom as an individual. If, for instance, the use of chemical substances (doping) is the result of the athlete's personal choice regarding his body, genetic improvement is not the choice of the individual (the embryo, in this case) itself, but the choice of the one who decides the development of the embryo. More simply, the improvements made in athletics through doping, comprise after birth a different type to the improvements that occur in the body before birth, and are improvements for which the researcher or parent is essentially responsible. Such a decision, however, which in a way expresses the magnitude of the reproductive freedom of an adult in the Western world, is in contradiction with the sacredness of the personal

freedom of the embryo, constituting perhaps the prospect of genetic manipulation of the future generations.

Let's presume, for the sake of argument, that the problems from the violation of nature can be overcome, and take a look at other parameters. One timely issue concerning humankind that arises, given that genetic improvement would create a new species of people and athletes, is who would have the advantage in many aspects. The creation of genetically improved athletes would consequently lead to a kind of exclusion of the "others", the "normal" individuals, as it presupposes that in order for one to be competitively adequate, he would have to also have to undergo corresponding genetic interventions. This prospect would consequently lead, according to Miah (2001) to the need for an industrial Olympiad at which the genetically improved super-athletes would compete separately from the athletes maintaining their natural gene structure. Such technologies are, therefore, unacceptable not only for sport, but also more generally, given that instead of bringing people closer, they would only serve to reinforce their separation into "common" and "elite" athletes, putting the non-genetically-improved athletes in a disadvantageous position (Miah, 2001).

But would someone genuinely want to "build" a child who would be a good athlete? Childless couples' deep desire to have children is legitimate, and there are equally legitimate means available to them to fulfill that desire. However, to the degree that other prospects are available, it is highly likely that they will attempt similar interventions, such as control over the gender and the various characteristics of their children. What, then, is the key point, or the "safety valve", beyond which an adult has no right of intervention? Is it certain that improvement of the child's physical condition, the creation of a super-athlete, will not serve as an attraction in the immediate future? As beauty is considered a plus in today's society, how much more of an attraction will improvement of athletic ability seem to someone seeking the best advantages for his offspring in order to ensure his child a profitable future?

If the condition that the existing percentage of risk would be negligible could be ensured, possibly the individual choice would run up against very few reservations. But the change of a gene could likely affect the operation and growth of other genes, at the expense of the individual's health. The possible appearance of disproportion and malfunction serve, for the time being, as inhibiting factors, given that if the potential exists to endanger an individual's future health, the genetic construction of

such a child would be unethical. But even if the health problems could be ruled out, a large number of questions still arise with respect to justice, morals, and mainly ontology, regarding the normality of this choice and its results.

The ability, however, for someone to become a top athlete does not depend exclusively on the type of genes and organs he has, and consequently we must not underestimate the other factors that determine the creation of an athlete, such as long-term exercise and practice, as well as specialized training, and also his spirit. Genetic improvement alone does not determine physical ability. Rather, one also needs to exercise these attributes, train hard, and undergo the entire painful process that makes someone an athlete. The development of dexterities, systematic and methodical preparation, are factors that cannot be downgraded or replaced by a simple genetic improvement, because otherwise we would be speaking about a human-machine, in other words a robot, rather than a freely-formed personality. The human being is not a laboratory product, nor a "Robocop", nor even a collection of genes, but rather a psychosomatic entity with emotional needs.

Modern-day quandaries and the future of athletics

The developments in the sector of bio-genetics naturally place the athlete, as a human being, and athletics, as an anthropological phenomenon, under a new prism, since the role of the former is annulled and the importance of the latter is downgraded. If "athletics" is defined as a phenomenon that brings the human being into contact with his nature, genetic intervention on the future athlete comprises, conversely, his alienation from nature. Such a development degenerates the value of athletics, weakening the importance of the athletic spirit.

With respect to the particular relationship developing recently between genetic technology and athletics, however, if one wants to be honest, one must admit that it is primarily the result of the modern-day big athletes' fervent desire to reach the top and impress the public with their achievements. But this desire is cultivated precisely in correspondence to the way in which public opinion works, in other words rendering the human body from a value into an industrial consumer product. The progress in pharmaceutics and medical science in this area - in order to ensure the effective and non-traceable special products that will skyrocket the athlete into a legend, while also opening up the door to com-

mercial success, – is an inevitable reality to which the athlete, and all those who benefit from him, are being led. Thus, we reach the contradictory conclusion that, while the ethical arguments against such a development abound, we ourselves, as members of our society, are taking part and formulating the perceptions conducive to such choices. Consequently, before we disapprove and criticise, it would be expedient to first engage in a little self-criticism and realise our own personal responsibility, because when a social phenomenon flourishes, the people must wonder about the contribution by the members of that specific society themselves, given that anything born within a social group is a reflection of the group itself.

It is no secret that there is a section of athletes who give in to the temptation of social recognition and financial success through an Olympic victory. But, in the bottom line, the blame does not lie with the athlete alone for this perception. A large number of sport coaches and trainers, federations and an omnipotent sport industry are standing by to milk the rewards of the Olympic success. The formulation of the "profit" perception *vis-à-vis* sport victory appears to arise from an established belief of the technological society, whose value system advances the models of success rather than the models of value. Under these conditions, the human being is identified with benefit, and the body with merchandise.

The generalised aphorisms against science and technology are, consequently, rather unfortunate. Technology in itself is not unethical or immoral, regardless of how immorally it may be used, and, in fact, frequently contributes to improving daily life and solving problems faced today by the human being. Consequently, any disdainful attitude against those two fields in actuality constitutes lack of objectivity, and turning a blind eye to reality. But there can be no compromise in rationalisation when it comes to the ethical foundation of science and, mainly, the investigation of the various ontological-existential issues that arise, which are related to the human being's identity, and with the continuity itself of humankind.

The genetic intervention on the human body, in brief, is allowed only to the corresponding degree that society allows the "utilisation" of technology at the expense of nature itself. To the degree that society, through education, reinforces its defences and defends physical ethics, so also are the values differentiated, thus reducing the prospects of genetic mistreatment of the human body. A person is not comprised simply and solely of a collection of genes, and consequently his life, and

death, is not predetermined before birth but, as the ancient Greek philosopher Democritos notes, he is also that which is shaped by his education.

Conclusion

The criticism for prohibition of medicines or other types of technological improvements in sport consequently retain complicated and open to many approaches. An important role in this debate is held by three factors: 1) The stance of the leadership of the world sport movement organisations, as it is dubious whether, and to what degree, it would benefit from obstructing the use of medicines in competitive sport. Up to now, this leadership has avoided openly taking a formal position, as if it were postponing this specific responsibility and waiting for the first genetic intervention in sport to take place first. Is the general outcry of the world sport leadership against such choices (use of technological methods) a certainty, particularly at a time when, without these methods, sport would be stripped of the impressive achievements that attract the interest of the public and at the same time maintain the sport leadership at top levels? 2) The formulation of public opinion, as it is certain that the social perceptions play a role of indirect force. If the perceptions formed are founded on a downgraded attitude toward human value and an upgraded assessment of the commercial profit, do they not lay the groundwork for an opportunistic confrontation of everyday life? 3) Personal consideration and sensitivity, given that subjectivity leads to superficial ways of approaching the problems, which does not reveal their essence but instead conceals and perpetuates them.

The above leads to the conclusion that it is necessary to establish a dialogue among the agencies, without taboos and subterfuges, and without turning a blind eye to reality; a dialogue based on the athletic prospect and human survival. Within an international trade of ovaries, sperm, human organs, what room is there for the natural athlete and what is his future? And if one considers the fact that other types of technological interventions, such as refinement of the technical equipment, have already created relations of dependence with the athletic performance of the competitive athlete (Berthaud et al., 1972), how much further does technology, in general and in particular, via the innovations of genetics, have the right to intervene in the human being?

The danger of violation of the individual rights - but also the human

rights in general - by various centres of authority, following the dizzying development of biotechnology and the immense prospects of genetic engineering, has recently been dramatically pinpointed. The post-human future recalls to our mind the almost prophetic books of Orwell and Huxley. The book of Francis Fukuyama *Our Posthuman Future: Consequences of the Biotechnology Revolution*, expresses the pervading fear of a prospective change of human nature, the disappearance of human values, and the marginalisation, if not the threat of suppression, of human rights by the biotechnological revolution which, with its momentum, is leading to a "post human phase in history". Bio-ethics, as a shield against the attack of techno-scientific progress, puts forward the respect for human rights. The evolution of human nature, the disturbance of the idea of universality, and the prevalence of "genetic inequality", will have negative repercussions on democracy, the quality of politics, and the nature of society itself.

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