

The Human Genome and the Human Control of Natural Evolution

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Abstract

Recent advances in research on the Human Genome are provoking many critical problems in the global policy regarding the future status of human beings as well as in that of the whole life system on the earth, and consequently, these advances provoke the serious bioethical and philosophical questions.

Firstly, how can we comprehend that we are going to have the complete technology to manipulate the system of the human genome and other non-human genomes? Though no science and technology can be complete, we will, I believe, take possession of an almost complete gene technology in the early stage of the next Century. Gene technology will soon fall into the hands of human beings instead of rendering in the province of God.

Secondly, which gene technologies will we actually realize and utilize in the early stages of the 21st Century? Most probably, we will adopt these technologies to health care to treat some apparent bodily diseases, for instance, cancer, hemophilia, ADA deficiency, and so forth, and sooner or later we will adopt gene therapy to germ lines, which, in the long run, suggests the possibility of a future “artificial evolution” instead of the “natural evolution” of the past

Thirdly, how is this new concept of “artificial evolution” justified ethically? I believe this kind of manmade evolution is the only way for human beings to survive into the future global environment. There cannot be any serious ethical objection against the idea of artificial evolution

Fourthly, what is the background philosophy for the concept of “artificial evolution”? I will discuss the nature of modern European humanism with individual dignity and fundamental human rights which has led the philosophy of modern culture and modern society, and I will conclude by suggesting that we should abolish an essential part of modern humanism and newly devise some alternative philosophy to fit the new Millennium.



Introduction

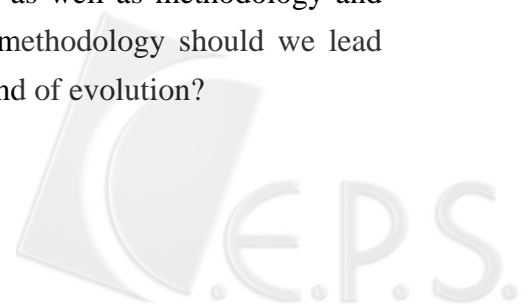
It is often said that now is the “age of biology”. We should try to make a major revision of the philosophy of biology, including the “bioethical” point of view, especially concerning the recent trends in genetics and gene technology. This is one of the most crucial points in order to assess the future status of humankind. In this paper, I will discuss especially the problem of justification of recent trends in human genome research as well as genetic engineering, from the viewpoint of the new idea of “Artificial Evolution”, which might urge us to re-examine and doubt the universal validity of the historical idea of “humanism” towards the post-modern global community. Here, presumably, Asian way of thinking, together with Asian ideas of Nature might provide some essential suggestions.

Heredity, Human Genome Research, and Artificial Evolution

The human being is subject to two unavoidable bodily, biological restraints, i.e. “Heredity” and “Evolution”. However, these two notions of our biological human nature essentially oppose each other. Heredity is a bodily disposition to preserve one’s own genetic characters, and “evolution” is, on the contrary, a tendency to alter the hereditary genetic characters. We have survived owing to the natural balance of these two mutually contradicting propensities of our bodily nature. Presumably this balancing has been done by way of irregular mutation and natural selection so far. We have, however, at the end of the 20th century, obtained the ability to control human evolution by means of “recombinant DNA”, i.e. to alter the genetic patterns of a human body artificially. We have acquired the third “Fire of Prometheus”, so to speak.

Since a few years ago, Gene Therapy has been used to treat some genetic diseases, such as ADA deficiency, cancer, and leukemia, and so forth in the world scale. Human Genome Research has been rapidly advanced, and all human genomes are expected to be decoded in a few years. And also, I presume, human cloning will be practiced in a few years somewhere in the world. The application of these contemporary technologies will certainly result in broad artificial changes in human genetic patterns. This may bring about the future possibility of the change of the human species to another species. This will be a sort of evolution, but it is not a natural evolution, which is done by natural selection, but a man-made evolution, which is done by means of an artificial selection of human beings themselves. In the next century, we will be able to control natural evolution to some extent. This new kind of evolution will be properly called “Artificial Evolution”, but it is not Eugenics for it does not mean “better” or “happier” at all.

But any artificial procedure needs its ends and purposes as well as methodology and assessment. Now, in which direction, to what goal, by what methodology should we lead humankind? And by what criterion should we assess this new kind of evolution?



Environmental Ethics and Fundamental Human Rights

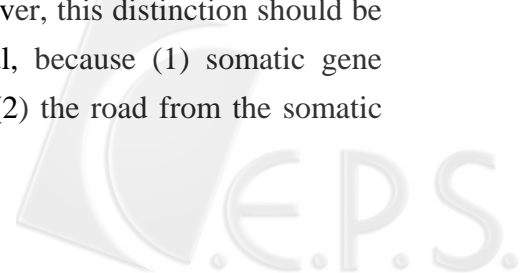
One of the easiest answers to the question above is that we should apply gene manipulation technology in order to maximize human welfare and happiness and minimize human pain or unhappiness. . But what is happiness and what is pain? Here again we may fall into the complex trap of utilitarianism. By now, however, we have developed another fundamental criterion to evaluate the future status of the human being, namely, the criterion of an environmental viewpoint.

Philosophically speaking, there are two types of ideas for protecting the environment. One idea is to protect nature in order to preserve the best environment for human being together with its future generations, and the other idea is to protect nature for its own sake. These two ways of evaluating the environment clearly contradict each other in their logical consequence. The former is typically an anthropocentric way of thinking. The latter believes that we should not manipulate nature to pursue only the happiness of human beings. Here, “nature” means natural environment, and at the same time, it would mean “natural evolution”. This antagonism between the two types of “protecting nature” leads us to a serious doubt about the status of the concept of “fundamental human rights” concerning whether it is within the scope of our fundamental human rights to change (improve or destroy) nature in order to foster the best human survival, or to increase our happiness. Now, most environmentalists would say “No!” decisively. This rejection shares a common logical basis with the rejection of gene therapy, cloning, and gene manipulation in general, by means of recombinant DNA. I presume every ELSI (Ethical, Legal, Social Issue) problem concerning gene manipulation fundamentally stems from this common basis.

Gene Manipulation and Human Rights

The Council of Europe of the EC launched one of the first global socio-legal attacks on this problem in 1982. The Council declared in its Recommendation 934 on Genetic Engineering “Human Rights imply the right to inherit a genetic pattern which has not been artificially changed”. It also, in a following item, hastily added: “the explicit recognition of this right must not impede development of therapeutic application of genetic engineering (gene therapy)”. However, this recommendation embraced a sort of serious conceptual confusion. Can human rights be violated in the name of human happiness (by recombinant DNA)? What are the nature and substantial contents of human rights and human happiness in relation to gene therapy?

In general, it is now common social understanding and common legal policy in the world to distinguish somatic gene therapy from germ-line gene therapy, and to recommend the former and to prohibit the latter type of gene therapy. However, this distinction should be only provisionally and not finally philosophically meaningful, because (1) somatic gene therapy might have some effects on the germ-line gene state, (2) the road from the somatic



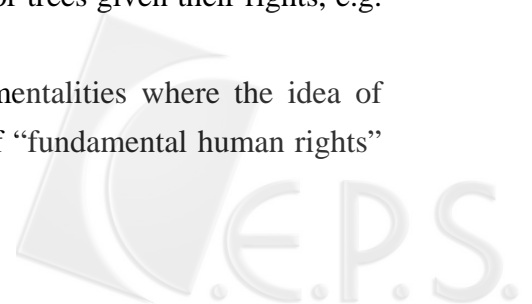
therapy to germ-line therapy is a sort of “slippery slope”. Philosophical problems about gene therapy will, I believe, arise only in the case of “germ-line gene therapy”.

Moreover, the supplementary item above of the Recommendation has some tunes of paternalism, or at least, of communitarianism. It sounds like saying, in order to promote the happiness of all human beings or human community, human rights can be violated to a certain extent. (The One Child Policy in China would be an apparent violation of fundamental human rights on the western standard. However, it would be accepted from the communitarian viewpoint, for it will prevent overpopulation in China, or even in the world.)

Personal Identity vs. Hereditary Identity, Universality of Human Rights Revisited

These questions have deep roots in the problem of personal identity vs. hereditary identity, and also the problem concerning the universality of human rights. In the history of modern European ideas, the concept of human rights has been discussed always in relation to the concept of “person” which is strictly distinguished from the concept of “human being”, so that human rights belong to an individual as a person but not as a human being. Here, I will refer to, among others, only, John Locke and Peter Singer as advocates of this theory to distinguish the concept of person from that of human being (P. Singer recently tries to apply the concept of “person” to non-human animals). According to them “Person” has the self-identity to which the dignity of an individual is attributed. This dignity has been often identified with “reason” which is universally and a priori given to all human persons (as I. Kant said). An analogue to this personal identity is bodily identity as a human being, which is properly represented as hereditary identity with the background of modern biology and genetics. Therefore, it seems to me, legal theorists of the EC easily assimilated it as a human right to preserve hereditary identity, i.e. genetic pattern. However, this analogy is dubious. First of all, it seems that the belief of the universality of reason in a person, and therefore, the universality of human rights has been questioned through the development of modern society, as well as through the history of scientific knowledge. We now begin to believe that the substantial contents of human rights may change from time to time, from society to society, and from culture to culture. Even in the same Euro-American society, the dignity of an individual, as the new idea of “Quality of Life” shows, has been largely relativised. Secondly, environmental thinking and new findings of the ecological sciences, together with new empirical and sometimes pessimistic philosophies, have raised a major doubt about the special, exclusive status of human dignity superior to all other species on the earth. Why is only humankind given the human rights? Why are not animals or trees given their rights, e.g. “animal rights” or “tree rights”?

Recently, people turn their eyes to Oriental or Asian mentalities where the idea of human dignity is relatively weak, and, therefore, the concept of “fundamental human rights”



does not work as in Euro-American societies. Isn't the concept of "person" and therefore, "human rights" only fictitious constructs, which are applicable only in the western societies? If we have to survive, its substantial justification should be looked for not in the fiction of human rights, but in the scientific fact that we are now living in nature.

Harmonious Holism and Asian Communitarianism

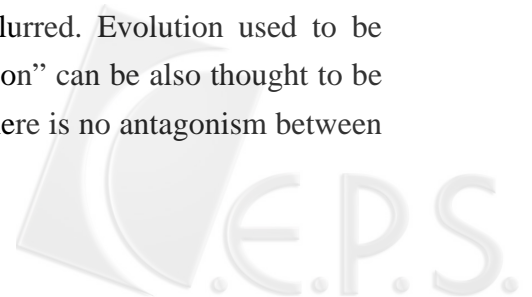
Here, I would like to propose a new alternative possibility of a harmonious holism and a new type of Communitarianism. Presumably, the human genome should be protected and preserved, even if it might be partially harmful to the survival of human beings. But it is not because its preservation is within the scope of human rights as is ordinarily said, but it must be only because its preservation is a harmonious activity of holistic nature. What, then, is harmonious holism?

Typical examples of harmonious holism can be found in East Asian traditions. Generally speaking, East Asian ways of thinking are said to be holistic and communitarian. The naturalism of Taoism represented by the concept of "Tao", the communitarianism of Confucianism represented by the concept of "Ren", and Japanese holistic harmonism represented by the concept of "Hua" or "Wa" - all exemplify this way of thinking. And in this variety of thoughts and ways of thinking, there are commonly found the following remarkable characteristics:

(a) They put a higher estimation on total and social well orderedness than on the individual interests or individual rights and dignity, and this well-orderedness is considered to be accomplished by the proper assignments of social roles and the fulfillment of the corresponding responsibilities to the people (individuals, groups or classes). This "orderedness" depends on the social system of each respective period of time. For Confucianism, it was feudalistic as a matter of course. However people can equally enjoy peace in society and their ordinary life. Here, peace means not only state of the non-existence of war, but also it means mental peace as well.

(b) Social justice is interpreted in a very realistic way, as, for instance, a social tuning technique or the like. There was no unique and absolute God, no categorical imperative, no free will, no autonomy to deduce justice and precepts to control people 's behavior except to pursue social peace. Every ethical and moral code is essentially relative to ages and regions. Eventually, there is only a little room for the idea of "fundamental human rights"

(c) Fundamental naturalism is pervasive in all Asian thoughts. According to this sort of naturalism, our, prima facie, non-natural and artificial human activities are ultimately included in nature as its small parts. Thus "to be natural" and "to be artificial" are not contradictory concepts at all, and the distinction is always blurred. Evolution used to be thought to be natural in the past. But now, the "artificial evolution" can be also thought to be natural in the Asian meta-level of the word "nature". In short, there is no antagonism between



nature and human being in the depth of Asian ways of thinking, and ways of living.

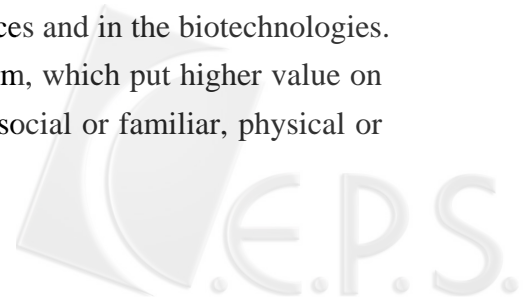
(d) They are inclined not to believe or pursue any “invariance” or “eternity”. Especially, Buddhist precepts always show that “Everything will change”. By contrast, western culture has always sought “invariance” and “eternity” which remain identical through every change. Thus various kinds of “conservation law” have been established in the history of sciences, such as “law of energy conservation” and the “parity conservation”, etc. In the same fashion, they introduced “personal identity” which remains invariant through all possible changes as a human being. This idea of invariance is somewhat foreign to the traditional Asian ethos. This is the most significant difference between eastern and western ways of understanding human beings.

Ethical Engineering, A Conclusion

Now, in the post-modern times, we are finding a variety of senses of value in “human rights”, “happiness”, “life”, and “nature” in the expanding and globalizing world. And, still, we have to orient the aims of a future “artificial evolution”. The only way and the best strategy now is to cultivate the methodology of harmonious activity to reach a consensus, giving equal consideration to all of these senses of value. I call this methodology “Ethical engineering”. In the notion of “harmonious activity”, I include the progress of science and technology only if it is not stained by excessive (non-harmonious) human-centricism. Thus, gene therapy, and recombinant DNA is ethically compatible with the notion of preserving the genome. I think this process of social tuning will be a piecemeal work of ethics to clarify the connotation of the concept of “harmony” and to seek a strategy of realizing this “harmony” in Nature.

This way of thinking might admit of a new sort of communitarianism or, I dare say, of paternalism, even the idea of some new type of “eugenics”, which has been long rejected in the western world as involving the violation of Human Rights. We are now standing at a very subtle turning point in the idea not insisting on human rights excessively in order to survive and to construct the new world system of ecology, economy, resources, the population of a global community. We have to restrain ourselves from insisting on human rights too much. A philosophy of this new kind of communitarianism or paternalism will be backed up by many Asian traditional thoughts, for instance, by the Confucian ethical idea of putting a higher estimation on harmony and social benevolence than on human rights.

Now, in conclusion, it is clear that in dealing with the ethical issues of the genome research, genetics, cloning, evolution and so on, it may not be a good strategy to refer only to the idea of “fundamental human rights” or “human dignity” in order to get the criterion for the assessment of the future of these innovations in the biosciences and in the biotechnologies. Instead, we should also refer to Asian types of communitarianism, which put higher value on the welfare and harmony of community, local or international, social or familiar, physical or



mental, human or non-human. When any antagonism may occur among communities at any level, we should just compromise without referring to any rigid principle. Only in this way can we hope to find the gateway to the future prosperity and survival of humankind as well as of the whole life system on this globe.

