

## Osamu Kanamori: Philosophy of Genetic Modification Tokyo:Keiso Shobo, 2005, Xiii +323 pp., index

Akihisa Setoguchi

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This is a striking book (original title: 遺伝子改造). Osamu Kanamori (金森修) is a leading scholar who has critically studied interactions between science and society. He has been assigned to governmental committees on bioethics and has strongly opposed the hasty introduction of new medical technologies. In this book, Kanamori carefully examines the ethical problems of genetic modification. The conclusion is rather striking, or even shocking: it is quite difficult to resist our tendency to modify our own genes.

The genetic modification of human beings has constituted one of the most important debates in bioethics. Can we design and construct a "better embryo" to make a healthy, beautiful, and intelligent child? Can we recombine our own genes to enhance our physical and mental abilities? Although these questions seem somewhat fictional, they are becoming more and more real after the achievement of the Human Genome Project. Most arguments in bioethics, especially in Japan, have adopted a negative view of genetic modification. These arguments support only gene therapy, which is used to treat patients with incurable diseases such as ADA deficiency. Further, they have argued that this therapy should be limited to somatic cells and that modifications of germ-line cells should be considered taboo. This is because genetic modification reminds us of the appalling history of eugenics. In recent American bioethics, however, many scholars such as Arthur Caplan have begun to adopt a positive stance on genetic modification. They argue that, under the principle of autonomy, it is impossible to prohibit someone from modifying his or her own genes. Kanamori refers to these scholars as "liberal new eugenics" and carefully examines their arguments.

Some proponents of "liberal new eugenics" seem overly optimistic to the point of absurdity. However, Kanamori admits that some of their arguments are difficult to

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A. Setoguchi (✉)  
Graduate School of Economics, Osaka City University, Osaka, Japan  
e-mail: akihisa.setoguchi@nifty.com

refute. For example, he states that even the genetic enhancement of germ-line cells cannot be taboo. Some opponents might argue that gene enhancement is different from gene therapy, which changes a person's status from disabled to normal. However, since there is no objective line between "disabled" and "normal," as George Canguilhem has shown, it is meaningless to distinguish enhancement from therapy. Other opponents might contend that genetic enhancement will benefit only the wealthy. But where would these arguments lie if someone were to introduce a system of social fairness that allowed any person to enhance his or her genes? Opponents such as Jeremy Rifkin have accused genetic modification of being unnatural. They have argued that human beings should not attempt to engage in activities that are traditionally considered divine. However, Kanamori shows that many Christian theologians strongly support genetic modification. They assert that it is god's will that human beings reform themselves. After hearing these arguments, it becomes rather difficult to prevent someone from promoting genetic modification. In addition, although Kanamori believes that we should prohibit human cloning, he adds that if we admit "the reproductive right," even human cloning might not be a taboo. Kanamori states that human beings seem to have an obsession with technology. Once humans acquire new technology, they cannot refrain from using it. Humans are "homo transgeneticus" (p. 229). Therefore, he concludes, we can only prohibit genetic modification when the liberty, autonomy, and integrity of the unborn child are threatened (p. 255).

We should note that Kanamori is not an optimistic advocate of genetic modification, such as the proponents of "liberal new eugenics." His message is that we should understand the current trends in American bioethics and prepare for the upcoming argument on genetic modification. After examining these assertions, arguments about "eugenics" or "unnaturalness" are not persuasive enough to prohibit genetic modification. What we face is a new problem. How should we design our own bodies while preserving a decent and fair society? Kanamori terms this the "cultural governance of designing nature (文化による自然統御)" (p. 257).

This book might also be read as a comprehensive survey of discourses on genetic modification. Kanamori shows that statements on the modification of human beings date back to the 1920s. For example, J.B.S. Haldane, in his famous book *Daedalus* (1924), wrote that having an understanding of the mechanism of the endocrine system would enable us to control our own emotions. Further, in the 1930s, H.J. Muller insisted that we should use our human resources to make ourselves more perfect. In the 1960s, J.B.S. Haldane and H.J. Muller became strong proponents of human modifications. The emergence of recombinant DNA technology in the 1970s made this problem more controversial. As a result, arguments on genetic modifications became more negative during the 1980s. However, after the emergence of gene therapy in the 1990s, many scholars began to discuss the actual possibilities of genetic enhancement. For example, Kanamori examines *Beyond Therapy*, a 2003 report by the American President's Council on Bioethics.

Although many historical figures appear in this book, the book is more philosophical than historical or sociological. In Kanamori's argument, all of their assertions are removed from their original contexts and blended together. I suspect, however, that even though they all address the issue of genetic modification, the social aspects of their arguments might have different meanings in their original

contexts. Genetic modification in the optimistic 1930s and the same argument during the neo-liberalistic 1990s are not exactly equivalent. The social implications of modifying human beings differ across various cultures, even among East Asian countries.

Chapter four of this book probably relates to this point. This chapter contains a dialogue with Yoko Matsubara, a prominent historian of eugenics in Japan. Matsubara repeatedly argues that the introduction of new medical technology should be regulated in the public sphere. However, Kanamori replies that her point is a “micro” argument. He asserts that he is talking about the “macro” problem, which is separated from the actual social decision. In my opinion, however, even “macro” philosophical arguments are embedded within “micro” contexts. Therefore, what we should explore is the “micro” context of genetic modification. What do discourses of genetic modification mean in different cultures? Why do some cultures welcome the modification of human beings while others do not? Science studies should strive to answer these questions.