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IS IT MORAL TO MODIFY MAN? Claude A. Frazier M.D. (ed.), (Charles C. Thomas, 1973).

## Chapter 16

### MORAL AND SOCIAL IMPLICATIONS OF GENETIC MANIPULATION\*

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The acceleration of biological engineering has been urged before Congress by Nobel Laureate Dr. Joshua Lederberg. He has called for the establishment of a National Genetics Task Force to increase the momentum of efforts aimed at unlocking the genetic code of man. Such a breakthrough in biology could lead to the prevention of many illnesses whose origin is wholly or partially in the genetic code.

There is much to be said in favor of such a task force. But it ought to be accompanied by a task force on the social and moral consequences of genetic manipulation. The imminent breakthroughs in biology may affect man as much or more as he was affected by previous revolutions in engineering and physics: the imposition of a new set of capacities, of freedoms, of choices society must make, of evil it can inflict.

Gene manipulation may also allow man to tamper with biological elements which heretofore had to be accepted, including the sex of children to be conceived, their features and color, and ultimately their race, energy levels, and perhaps even their IQs.

Only 10 or 15 years hence, it could be possible for a housewife to walk into a new kind of commissary, look down a row of packets not unlike flower-seed packages and pick her baby by label. Each packet would contain a frozen one-day-old embryo, and the label would tell the shopper what color of hair and eyes to expect as well as the probable size and I.Q. of the child.<sup>1</sup>

\*"An earlier and much shorter version of this article was published in the *New York Times* (September 5, 1970)."

While Dr. Hafez's predictions may be on the extreme side in terms of pace of progress expected, many other scientists have called for and predicted genetic control.\*

Even now tests are made of the fluid in which the fetus floats to determine if there are any genetic defects *and* if it will be a boy or girl. Those tests are then used, at least in some instances, to order abortions. In conjunction, the tests plus the abortions amount to a very crude mode of genetic control. As the test, so far, cannot be carried out reliably before the fetus is fourteen to sixteen weeks old, the danger to the mother has to be weighed as compared to the benefits of "ordering" the desired child. However, in the near future this procedure may well be carried out when the fetus is two months old and be used routinely with very little danger. Thus, what may start as the biological control of illnesses could become an attempt to breed supermen. While this may appeal to some, think about the agonizing problems if man has to act as the creator and fashion the image of man.

#### SHOPPING FOR GENES

What supermen will the national task force order? Blond or brown, white or black? Highly charged or low-keyed? More males? And, who will make all these decisions—the parents shopping for genes in the supermarket, again expecting society to pick up the bill for the aggregate effects of individual decisions? Or, a government agency, a task force?

Fortunately, it seems we do not have to stop the genetic combat of illness to prevent genetic engineering for racist purposes. Contrary to widely held beliefs, studies show that the energy of science may be guided into one area to the relative neglect of others. It is generally thought that scientific work requires that the scientist follow any lead his investigating spirit encounters and which may take him any place. The findings of a sub-discipline of a field trickle freely into the others: hence, one kind of genetic manipulation will willy-nilly open the door to others.

Actually, most scientific findings are not readily transferable, and their application is affected by moral taboos. Next to no

\*See, for instance, Dr. H. J. Muller's article in *Science*, September 8, 1961.

work is carried out in the psychology needed to develop subliminal advertising, and those scientists who sought to prove racist theories are starved for funds and academic recognition.

Before such guiding of scientific efforts can be effectively applied to the new genetics, we must have a clearer notion of the moral and social choices involved in the biological revolution and the mechanisms by which science can be guided without being stifled.

#### **EXPLORE THE OPTIONS**

Let us not again sail blindly into a storm unleashed by scientists anxious to unlock all of nature's secrets with little concern for who and what will be blown over in the resulting tidal waves.

During a recent meeting of ministers and rabbis in Princeton, I suggested that a board be set up by thoughtful men within the religious field and humanities as well as concerned biologists to examine the moral and social consequences of the imminent biological breakthroughs in the area of genetic control.

Before we go further we should examine the moral and social issues involved. No board of the kind envisioned could rule on these matters. This is not the way our society is run. But it could call to the attention of the public some of the dimensions involved and alert the scientific community to what it is getting into.

#### **REFERENCE**

1. Dr. Hafez: Foreseeing the unforeseeable. *Kaiser Aluminum News*, No. 6, 1966, p. 22.