



SUMMARY

The Social Evaluation of Genetic Technology

The book is composed of articles written by a number of geneticists, medical doctors, agricultural scientists, sociologists, and philosophers. Most of the contributors took part in the conference on "Public evaluation of genetic technology" at the *Institute of Social Sciences Ivo Pilar* in Zagreb, on January 13, 1999.

In the wake of a public outcry against genetic technology and genetically modified organisms, at home and abroad, contributors to this volume felt they had a task to promote a scientific approach and an assessment of the results and merits of GT. One of their motives was to promote public understanding of GT by describing techniques that have become a part of world's scientific legacy and which have served public purposes for more than twenty years. Several authors underlined the scope of the present use of GT in medical diagnostics, therapy, and in the production of very useful and common pharmaceutical products. Contributors to the first part of the book, "What is genetic technology?", and to the fourth part, "Genetic disorders", take up these issues and motive as their major subject matter.

For the majority of contributors, another motive was to convince the public at home, that countries which are not sensitive to technological advances and scientific development, and which do not maintain the educational pace of a wider public, will fall further away from the technologically, socially and educationally advanced nations. An assumption of the majority of contributors was that the vast scope of public criticism of GT comes from persons or groups who have not taken the time and pains to understand the scientific basics of genetics or the procedures and technologies that are at disposal. This may become a major point of scientific and public concern in the future for several reasons. First, a popular approach might affect and ultimately prevent further scientific research necessary for a proper ethical evaluation of the real issues

involved. This was a particular topic for the contributors in the third part of the volume, "Cloning", and also in the fifth part, "Social and ethical problems". Second, more generally, this popular approach might jeopardize keeping pace with the scientific, technological and social development of the more advanced countries in several respects: a) by legislation against useful genetically recombinant products, particularly in medicine, but also in the food industry; b) by legislation against rather standard medical procedures (like genetic assistance in reproduction) where genetic technology is involved; c) by preventing further research in general and suppression of its applications, and therefore by reducing the technological base for international competition; d) and ultimately by keeping a genetic pool (with a particular frequency of genetic disorders and mutations) intact. Such an approach shows ultimate disrespect for the revolutionary scientific achievements of the last decade, which will definitely, in a number of ways, affect our lives and lives of our children. Countries, which inadequately respond to the challenges of today, by seizing the knowledge at hand, will face greater consequences later.

The contributors to this volume have shown that there are indeed a number of ethical and social issues involved in their research. However, these problems differ drastically from the commonly posed questions by the general public, "for" or "against" GT. Some authors have shown why the formulation of ethical and social questions has to be specific. First, not to harm other human beings, who might profit (and who already do profit) from the new technologies. This is particularly acute in reproductive assistance cases (part three of the book, "Prenatal diagnostics") where human rights and choices are involved, and where the abandonment of genetic techniques would prolong or cause unnecessary suffering. Also, these kinds of diagnosis involve all sorts of classical problems in medical ethics (informed consent, public versus private medical care, etc.) Second, there are ethical and social problems, which will ultimately have to be decided broadly (such as: should we clone people?), but which involve subtle scientific ramifications (such as: what reasons can we give against embryonic stem cells research) of which public is normally not aware, and which might have radical/dramatic consequences. Finally, there are ethical and social problems involved in *ex futuro* reasoning (such as: what if some societies decide to embrace the practice of genetic enhancement, and others do not; what if new eugenics becomes a standard procedure). Some social scientists

have suggested that biotechnologies are nowadays used as a substitute for social engineering, which has dramatically failed. The assertion that GT presents a culmination of human ratio was also made: now that standard technologies have done their job in making everything inorganic into a machine, GT has started to use organic matter and beings as vehicles of progress.

The final part of the book consists of *Addenda*. We have reprinted a draft of the liberal Act on prenatal assistance (1996); presented the infrastructure of genetic research in Croatia (in order to show how extensive it is, since it involves all sorts of institutions: from those that deal with genetic screenings for diagnostic purposes, institutes which are involved in recombinant gene technology and genomic research, in genetic selection in veterinary and agricultural practice, to those institutions who use GT for standard criminal investigations, and even for the recognition of war casualties). We have reprinted parts of the Catholic Catechism in order to show that the official document of the Catholic Church concerning matters of genetic assistance and genetic screening is more liberal than usually thought by the public. And finally, we have reprinted an *International Declaration on Defense of Cloning and Integrity of Scientific Research*, signed by a number of well-known scientists and philosophers in 1997.