

Books

Inventing the Future

by Dennis Gabor

Alfred A. Knopf, Inc.\$4.95

Reviewed by Joel N. Franklin,
professor of applied science

Dennis Gabor, professor of applied electron physics at the University of London, is 65 years old and a fellow of the Royal Society. His *Inventing the Future* defines, and suggests solutions to, the problems of the world he feels will be the most important during the next 50 years. The title reflects Gabor's belief that the future cannot be predicted, but futures can be invented.

Gabor offers these "inventions":

Threat of nuclear destruction. There will not be an all-out war. The certainty of retaliation prevents Russia and the United States from attacking each other. They are prosperous nations and are becoming indifferent to conflicts between political philosophies.

Overpopulation. The extraordinary growth of the world's population must and will be slowed. The recent growth has been due, not to a rise in the birth rate, but to a fall in the death rate. The only answer to this problem is increased birth control. When overpopulation becomes more serious, the world's religions will relax their opposition to birth control.

Automation and leisure. In the advanced countries most of the useful work will be done by a small fraction of the people. What will the rest of the people do? Men are psychologically unprepared for a life of leisure. Men must have work to be mentally healthy, and their work must seem meaningful and important. The solution to this problem is a change of values. Increased industrial production and the saving of lives cannot be the supreme values in an automated, overpopulated society. We must learn to value knowledge and beauty for their own sakes. We must move toward a life of abundance and satisfaction for the common man and toward a life of creative struggle for the uncommon man.

Depletion of natural resources. In 50 years there will be serious shortages of lead, zinc, copper, tin, petroleum, and other natural resources. This is a challenge to technology. Because technological problems are met the most readily by mankind, they are the least of our worries.

Poverty and political immaturity. The underdeveloped countries are poor and politically immature. The problem is serious because the least advanced

countries respond the slowest to scientific progress. Two percent of the income of the United States and of the other most advanced countries should be devoted to improving the technology of the rest of the world. As the rest of the world becomes economically self-sufficient, it will become politically more mature and less volatile.

This is an extraordinary book. It is at least 50 times as good as the average book of its type. It would be hard to describe adequately the author's brilliant literary style, the depth of his insight, and the scope of his knowledge. Reading Gabor's book is like having a series of coffeeshop conversations with the most learned and witty of your colleagues. To this reviewer the book has only one serious fault, and that is a fault of omission. Gabor is unduly complacent about the threat of nuclear destruction. His complacency is based on a sound analysis of two countries, the U.S.S.R. and the U.S.A. He ignores the great problem which will come in 10 or 15 years. Then there will be *more* than two countries with nuclear-missile capability. If a nuclear submarine of unknown origin deposits a bomb on New York City, *against which country will we retaliate?*

General Genetics

by Adrian M. Srb, Ray D. Owen, and Robert S. Edgar.

W. H. Freeman & Co.\$9.00

This book is the second edition of a standard college textbook of genetics. Two of the authors are members of the Caltech faculty — Ray D. Owen, chairman of the division of biology, and Robert S. Edgar, associate professor of biology. Adrian M. Srb, of Cornell University, was research associate in biology at Caltech in 1949.

The new edition incorporates the essential details of the many spectacular developments which have occurred in genetics since the first edition of this work appeared in 1952. The book begins with a discussion of the principles of heredity as exemplified in higher plants and animals. The student is then introduced to the intricacies of the physical and chemical basis of heredity as elucidated by experiments with the lower organisms, especially the phages, bacteria, and fungi. The book remains broad in scope, and the student will find comprehensive and thorough discussions of such topics as plant and animal breeding, the role of the genes in development, and the genetics of man.

Letters

EDITOR:

This letter is written in response to the article "Student Life—Some Problems and Proposals," by Fred Lamb '68, in *Engineering and Science*, December 1965.

Subject article definitely requires some attention to clear the air in this puzzled world of student life as portrayed by Fred Lamb.

California Institute of Technology and all other accredited educational institutions in this country and all other parts of the world function for only one purpose, i.e.: To instruct students in the courses respectively chosen by the students.

Coffee houses, beer joints, an associated women's college, and similar environments are certainly not essential to the successful pursuit of an engineering science course.

My academic years, which began with high school and the Far Eastern State Institute of Technology in Russia, and later, Willamette University, were completed at California Institute of Technology. While at Caltech, my fellow students and I did not experience any necessity for "a course for credit involving work projects on cultural, social, and political problems in the Los Angeles area, perhaps in cooperation with a girls' school." I imagine it could be lots of fun — if that's what Caltech is for.

It appears that the problems described lie not with the Institute, but with some students who, unfortunately, were brought up on "ice cream and mashed potatoes."

During my college years and thereafter, I have found that the Caltech Board of Directors and members of the faculty have performed an excellent job in every respect. Considering their outstanding record, I would leave such matters to our experienced educators and administrators, many of whom have received international recognition and great respect. Let's not tinker with the best.

As for those who find the development of their social skills and emotional maturity being stifled, let them transfer to one of the many second-rate colleges which offer everything except a good education.

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