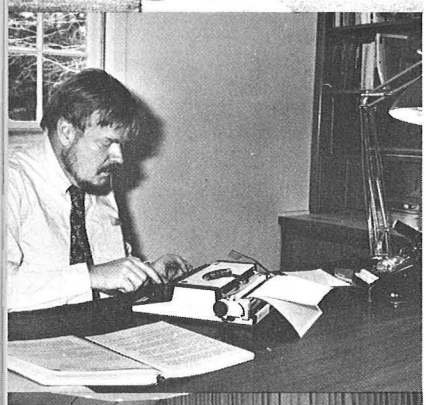
ANNUAL REPORT 1978

COLD SPRING HARBOR LABORATORY



BANBURY CENTER

The Banbury program of small meetings on environmental health risks began the hard way. It poured with rain on the Sunday in May when most of the scientists attending our first meeting were to arrive. Thus, there were few to eat the first of a series of excellent meals prepared by our local caterer. The details of the meeting, including the contract for it, were arranged in just a few weeks during which it seemed that a new chemical carcinogen was cropping up almost daily. And the subject of the first meeting was inherently difficult. Leading students of animal and human genetics spent three days arguing about the risk to future generations from mankind's rapidly increasing commitment to chemical technology. The conclusions seemed to be that there is a risk, albeit hard to measure, and that geneticists should warn governments of the urgent need to gather data rigorously on the occurrence of mutations in newborns. This would provide a background against which the effects of new pollutants could be measured.

We taped it all, deciphered almost all of it, let the authors see our transcript, and participated in the difficult task of writing a summary of the conference. In November, a final draft report was produced for the meeting's sponsor, the Office of Toxic Substances of the Environmental Protection Agency, using the same IBM Office System 6 equipment that is producing the proceedings volume that the Laboratory is publishing April 1.

While learning hard lessons about rapid production of proceedings volumes from tape recordings, the Banbury staff was planning a series of 1979 meetings on six topics: short-term mutagenicity tests using mammalian cells, risk assessment with the Mormon data bank, the consequences of finding that ethylene dichloride causes cancer in animals, the possibilities of a safe cigarette, the quantification of industrial cancer, and prolactin inducers.

The planning involved many steps. The Banbury Director, Victor McElheny, attended several conferences on environmental health problems, including the massive sessions in June arranged for the New York Academy of Sciences by Dr. Irving Selikoff. There were visits to the libraries of Dr. Selikoff at Mt. Sinai Hospital and Dr. Norton Nelson at Sterling Forest, New York. A select library on biological risk assessment was established at Banbury, and the Director's 20-year file of news clipping and releases on toxic substances was reworked. Advice was sought widely. We held a two-hour session with the participants of the Laboratory's phorbol ester meeting last May, and a smaller session with participants in the Symposium on DNA replication and recombination.

There were frequent contacts with John Cairns, Bruce Ames, Bernard Weinstein, Richard Peto, Joyce McCann, Fred de Serres of the National Institute of Environmental Health Sciences, Alexander Hollaender of Associated Universities, Inc. and with such representatives of industry as John Burns of Hoffmann-La Roche, Inc. As the conversations proceeded, the subject of biological risk assessment divided itself into such salient topics as the technology of short-term testing, problems of human data collection, industrial carcinogens, consumer health risks, and diet and human cancer. In developing the Banbury program, it became clear that our topics are a logical extension of the territory pioneered by the Laboratory's 1976 Conference on the Origins of Human Cancer. It also became clear that every department of the laboratory was ready to help the new center get under way—and that this help was vital.

ASSESSING CHEMICAL MUTAGENS: The Risk to Humans
May 15–May 17

Session 1

R.N. Hill, Office of Toxic Substances, Environmental Protection Agency, Washington, D.C.: Introduction.

J.V. Neel, Department of Human Genetics, University of Michigan Medical School, Ann Arbor: Mutation and disease in humans.

W.G. Flamm, Division of Toxicology, Bureau of Foods, Food and Drug Administration, Washington, D.C.: Strengths and weaknesses of tests for mutagenesis.

Session 2

E. Eisenstadt, Departments of Microbiology and Physiology, Harvard University School of Public Health, Boston, Massachusetts: Bacterial mutagenicity testing: Some practical considerations.

G. Walker, Biology Department, Massachusetts Institute of Technology, Cambridge: Theory and design of short-term bacterial tests for mutagenesis.

R. Setlow, Biology Department, Brookhaven National Laboratory, Upton, New York: DNA repair.

J. G. Brewen, Biology Division, Oak Ridge National Laboratory, Tennessee: Cytogenetic studies and risk assessment for chemicals and ionizing radiation.

Session 3

L. R. Valcovic, Public Health Service, Bureau of Foods, Food and Drug Administration, Washington, D.C.: General aspects of comparative mutagenesis.

Session 4

J.W. Baum, Safety and Environmental Protection Division, Brookhaven National Laboratory, Upton, New York: Radiation-induced cancer.

D. Hoel, Biometry Branch, National Institute of Environmental Health Sciences, Research Triangle Park, North Carolina: Low-dose and species-to-species extrapolation for chemically induced carcinogenesis.

S. Abrahamson, Department of Zoology, University of Wisconsin, Madison: Estimating radiation-induced genetic disease burdens.

L. Ehrenberg, Wallenberg Laboratory, Stockholm University, Sweden: Risk assessment of ethylene oxide and other compounds.

W.B. Lee, Jr., Department of Zoology, Louisiana State University, Baton Rouge: Dosimetry of alkylating agents.

V. Ray, Medical Research Laboratory, Pfizer, Inc., Groton, Connecticut: Are benzene effects limited to the chromosomal level?

Sessions 5, 6, 7

Discussions