



# **Cancer Research in the People's Republic of China and the United States of America**

**Epidemiology, Causation and New Approaches to Therapy**

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**Cancer Research in the People's Republic of China  
and the United States of America**

# 中美两国的癌症研究： 流行病学、病因和治疗新途径

保羅馬克斯醫學教授

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## Acknowledgments

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Many people were involved in the planning for this Conference. It is appropriate to express appreciation to the members of the Program Committee, which included Dr. Xu Bin, Visiting Scientist from the Institute of Materia Medica of the Chinese Academy of Sciences, Shanghai, and Professor I. Bernard Weinstein, University Professor Sol Spiegelman and Professor Emeritus Konrad Hsu of Columbia University. Steven Chen, Joyce Stichman and James Quirk of Columbia University, Robert Feeney and Dr. Greg Gardiner of Pfizer and Philip Wallach associated with Dr. Armand Hammer were all extremely helpful in facilitating the complex arrangements for this Conference.

We are grateful for the cooperation and support received from the Permanent Mission of the People's Republic of China to the United Nations, the Chinese Academy of Medical Sciences and the Chinese Academy of Sciences, as well as our own Department of State, National Cancer Institute and National Academy of Sciences.

Helene Friedman and Mary Corrigan provided their expertise in the editing and preparation of the manuscripts. The staff of Grune & Stratton expedited our publication efforts.

## Preface

The first bilateral Conference on Cancer Research in the Peoples Republic of China and the United States was held at Columbia University on the fifth anniversary of the opening of the University's Comprehensive Cancer Center and the Julius and Armand Hammer Health Sciences Center. This volume is composed of those papers delivered by scientists who participated in this conference. In addition, the text includes an address by Dr. Philip Handler, the President of the United States National Academy of Sciences, that was delivered to the participating scientists at a banquet held in their honor.

The aim of the Conference was to provide an opportunity both for individual scientists from the People's Republic of China and the United States to make in-depth presentations of their work and for all participating scientists to explore aspects of particular interest through informal discussion groups.

Those in attendance felt that the Conference made an important contribution to the growing scientific exchange among workers in the area of cancer research in these two countries and to the substantive scientific collaborations that are beginning among individual scientists sharing mutual interests. In fact, four of the participants from the People's Republic of China stayed on in laboratories at the National Cancer Institute, Yale University and Columbia University for collaborative research with members of the faculties of these institutions.

The Conference occurred at a time when advances in the study of cancer epidemiology, biology and therapy in the laboratories of both nations are offering new options for the prevention as well as the treatment of cancer. The timely and useful substantive exchanges among scientists working in these areas of cancer research in our two countries have enabled us to provide detailed reports of data, in several instances previously unpublished, that can be utilized by our colleagues around the world, who are working to decrease the burden of cancer in our society.

**Paul A. Marks**

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OPPORTUNITIES AND CHALLENGES  
FOR COOPERATION BETWEEN  
THE UNITED STATES AND CHINA  
IN CANCER RESEARCH

DR. PHILIP HANDLER  
*President*  
*National Academy of Sciences*

ADDRESS\*

Thank you very much, Paul, Mr. "Hard Guy," Mr. "Easy Guy," Mr. Krim, Dr. Hammer, Mr. Ambassador,\*\*, distinguished guests, students all. I am, of course, most pleased to have this opportunity to be with you this evening to take note of this unique Conference and to join in celebrating the fifth anniversary of the Julius and Armand Hammer Center. Particularly, do I wish to congratulate you on this, the first formal Conference on Cancer Research in China and the U.S. As such, it constitutes a landmark in the continuing efforts of scientists in both countries to establish a firm basis for dialogue and for enduring cooperation and, at the same time, it underscores the power of science as a medium for bringing our peoples together. By assembling such a distinguished group of people to discuss the problems of cancer etiology, biology, epidemiology, prevention and therapy, Paul Marks has done us all a great service.

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\* This address was delivered at the Banquet honoring the scientists from the People's Republic of China and the United States on Cancer Research in the Rotunda of Low Library, Columbia University, March 28, 1980. Dr. Philip Handler was introduced by Dr. Paul Marks, Vice President for Health Sciences and Director of the Cancer Center, Columbia University.

\*\* Mr. Arthur Krim, Chairman of the Board of Trustees, Columbia University; Dr. Armand Hammer, President of the Armand Hammer Foundation; Mr. Ambassador, Lai Ya-Li, Permanent Mission of the People's Republic of China to the United Nations.

Research on cancer is a high national priority in the United States as, I understand, it is in China also. By combining our understanding, in meetings such as this, and by continuing the exchange of scientists and scientific information between our two countries, we will, I hope, advance the worldwide search for the causes and cures for cancer.

In the eight years since the signing of the Shanghai Communiqué, our two countries have come a long way in establishing a viable political and economic relationship. Relations in scientific and technical fields have evolved from the "scientific tourism" of the period 1972 to about 1977, to more rewarding forms of exchange--such as this conference. We have moved from a pattern of brief, survey visits by delegations to exchange of individual research scholars and lecturers for meaningful periods and the convening of substantive bilateral scientific symposia such as this and the recent symposium on polymer chemistry in Peking. Much will be gained, I am sure, from the continuing exchange of ideas and scientific data and from the longer-term visits of scholars for specific research projects.

A few weeks ago, in Peking, as a member of the binational commission on science and technology, I signed an agreement with the Chinese Academy of Sciences on behalf of the National Academy of Sciences including the National Academy of Engineering and the Institute of Medicine. This "Memorandum of Understanding," signed only one year after the normalization of diplomatic relations between the United States and China, calls for mutually beneficial programs of scholarly cooperation. Joint programs sponsored by our two academies of science will take such forms as exchanges of individual scholars, bilateral seminars and symposia, discussions of long-range planning, and exchange of publications. We shall also serve as mechanisms for facilitating the personal plans of independent investigators as we already serve as a coordinating mechanism with respect to the placement of students and postdocs.

As you may know, the National Academy of Sciences has had a Committee on Scholarly Communication with the People's Republic of China since 1966. Since 1972 this Committee has sponsored exchanges in many fields of basic and applied science, the social sciences, and the humanities. Medical exchanges, particularly in cancer research, were no small part of that program. In fact, one of the first breaks away from "scholarly tourism" was the 1977 visit to China of the Committee's Cancer Delegation, led by Dr. Henry Kaplan of Stanford University. I am happy to note that several members of that group are in the room tonight (Dr. Bertino, Dr. Miller, Dr. Weinstein). Their presence here attests to their continuing interest in opportunities for cancer research in China.

Dr. Kaplan's delegation proposed four areas of potential opportunities for cooperation in cancer research, four areas that offer great challenge to the scientists of both countries. First was EPIDEMIOLOGY.

We have the good fortune to have with us tonight Dr. Li Bing, Vice Director of the Institute for Cancer Research, Chinese Academy of Medical Sciences, Peking. Dr. Li is here under the auspices of the Lecture Exchange Program of the Academy's China Committee.

Dr. Li's research on geographic patterns of cancer in China, especially her work on esophageal cancer in north China, is known throughout the world. Her presentation this morning on regional patterns of cancer as clues to causation and prevention offer hope that such investigations in China will lead to new etiological discoveries which may have implications for people throughout the world. We have much to learn from the observational techniques of Chinese scientists, and a promising beginning could be made in collaborative studies on the regional cancer patterns in China and in the United States.

Second was CARCINOGENESIS.

Guided by epidemiological investigations, studies into possible carcinogenic substances in the regional high-risk cancer areas are potential subjects for collaborative ventures. Dr. Li Ming Xin (Shin) has reported on the possible role of nitrosamines and their precursors in the drinking water and foodstuffs of the inhabitants of the high-risk area for esophageal cancer. Further investigations on this topic and on other possible environmental carcinogens--in China and in the United States--might provide insights that will illuminate the etiology of cancer. And we badly need such. I say that because I am persuaded that some profound simplifying concept has been eluding us. Let me explain why.