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CONFERENCE

on

BIOLOGICAL EFFECTS OF ASBESTOS

Monday, October 19,
Tuesday, October 20, and
Wednesday, October 21, 1964

THE NEW YORK ACADEMY OF SCIENCES
SECTION OF BIOLOGICAL AND MEDICAL SCIENCES
2 East Sixty-third Street
New York, N. Y. 10021

The evening session on October 20
will be held at the Academy Building

ALL OTHER SESSIONS WILL BE HELD AT

The Waldorf-Astoria
Park Avenue at 50th Street
New York, N. Y.

This program will serve as a ticket of admission and is nontransferable.

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Preface of the Conference

In the four decades during which there has been acceptance of potential hazards associated with exposure to asbestos, solutions to the problems involved have been elusive.

Therapy of asbestosis remains largely a rearguard holding action once the diffuse interstitial fibrosis is established. Prophylactic measures are hampered by difficulties in early diagnosis, including the long latent period often noted between onset of exposure and clinical change.

Hard won data have been accumulating which indicate that neoplasia associated with asbestos exposure, especially those of the lung, are perhaps the most important industrial cancers at this time. This importance has been emphasized by the recent stimulating studies of South African and British investigators demonstrating the significant incidence of pleural and peritoneal tumors associated with asbestos exposure and by the knowledge that the various neoplasms might follow exposure of limited duration and intensity, inadequate to result in significant asbestosis.

There have been effective advances in dust control techniques, accomplished by diligent, ingenious and expensive engineering. However, application of these procedures has been hampered by the rapid growth of asbestos utilization, sometimes under circumstances in which exposure has been obscure or unrecognized. Moreover, community and indirect occupational exposure may occur; the scope and importance of such "asbestos air pollution" are at present uncertain but their potential significance has attracted attention.

The foregoing sober inventory provided the stimulus and background for this Conference. The Scientific Council of the Academy considered that the interdisciplinary nature of the problem, involving such distinct fields as experimental pathology, applied physiology, oncology, epidemiology, and industrial hygiene could best be served by a broad conference of investigators in the biological sciences and those in allied fields.

In October 1963 visits were made by Dr. Selikoff on behalf of the Academy to several European centers to investigate the feasibility and potential scope of such a conference. In particular, British studies were reviewed with Dr. J. C. Gilson, Director of the Medical Research Council Pneumoconiosis Research Unit. The cooperation of Dr. H. Heimann of the Division of Occupational Health of the United States Public Health Service facilitated a survey of current work in this country.

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The Academy was fortunate in securing the advice of a Conference Committee which encompassed the major areas involved. Its members, themselves actively concerned with the problem, met January 6, 1964 in New York. The preliminary design of a meeting then formulated was refined during the succeeding months by the Committee with the assistance of active investigators in many parts of the world and by July, 1964 the Conference program was completed.

It is the hope of the Academy that this Conference will be a fertile one and will lead to decisive findings on this important problem.

Eunice Thomas Miner
Executive Director
The New York Academy of Sciences

July 17, 1964

ORGANIZING COMMITTEE

Irving J. Selikoff	Cochairman; The Mount Sinai Hospital, New York, N. Y.
Jacob Churg,	Cochairman; The Mount Sinai Hospital, New York, N. Y.
W. Clark Cooper	School of Public Health, University of California, Berkeley, Calif.
John C. Gilson	Pneumoconiosis Research Unit, Medical Research Council, Penarth, Glamorgan, Wales
E. Cuyler Hammond	American Cancer Society, New York, N. Y.
Thomas F. Mancuso	Graduate School of Public Health, University of Pittsburgh, Pittsburgh, Pa.
E. Lynn Schall	Occupational Health Program, New Jersey State Department of Health, Trenton, N. J.
William E. Smith	Health Research Institute, Fairleigh Dickinson University, Madison, N. J.

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Conference Cochairmen:
I. J. Selikoff
and
J. Churg
The Mount Sinai Hospital
New York, N. Y.

PROGRAM

MONDAY, OCTOBER 19, 1964

Session Chairman: H. J. Magnuson
Institute of Industrial Health, University of Michigan
Ann Arbor, Mich.

9:00 A.M. –

Greetings from the Academy – Gabriel G. Nahas, Vice-Chairman, Section of Biological and Medical Sciences, The New York Academy of Sciences; College of Physicians and Surgeons, Columbia University, New York, N. Y.

Opening Remarks – I. J. Selikoff, The Mount Sinai Hospital, New York, N. Y.

ASBESTOS MATERIALS IN MODERN TECHNOLOGY

Session Cochairman: P. H. Riordon
Asbestos Corporation Limited
Thetford Mines, Quebec

"The Geology, Occurrences and Major Uses of Asbestos" – N. W. Hendry, Canadian Johns-Manville, Ltd., Asbestos, Quebec.

"Physical and Molecular Structure of Asbestos" – R. Gaze, The Cape Asbestos Company, Ltd. (Asbestosis Research Council), London, England.

LIVING TISSUE AND MINERAL MATTER: PROBLEMS OF PATHOGENESIS

Session Cochairman: I. Webster
Pneumoconiosis Research Unit
Johannesburg, South Africa

PROBLEMS OF IDENTIFICATION OF ASBESTOS IN HUMAN TISSUE: PANEL DISCUSSION

MODERATOR: P. Gross, Industrial Hygiene Foundation, Pittsburgh, Pa.

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"Identification by Fluorescent Dye Staining and Electronically Activated Oxygen Ashing" – C. Berkley and J. Churg, The Mount Sinai Hospital, New York, N. Y.

"Identification of the Several Varieties of Asbestos Fibers in Human Lung Tissue" – A. Vorwald, Wayne State University College of Medicine, Detroit, Mich.

"Dust Content and Composition in Lungs with Asbestosis" – G. Nagelschmidt, Safety in Mines Research Establishment, Sheffield, England.

EXPERIMENTAL ASBESTOSIS
PANEL DISCUSSION

MODERATOR: J. C. Wagner, Medical Research Council Pneumoconiosis Research Unit, Glamorgan, Wales.

"Asbestos Dust Deposition and Retention in Animals" – J. C. Wagner and J. W. Skidmore, M.R.C. Pneumoconiosis Research Unit, Glamorgan, Wales.

"Experimental Asbestosis with Three Types of Fibers: Importance of Particle Size" – J. Mills and P. F. Holt, (Asbestosis Research Council), University of Reading, Reading, England.

"Electron Microscopic Studies of Asbestosis in Man and Animals" – J. M. G. Davies, (Asbestosis Research Council), University of Cambridge, Cambridge, England.

"Rheumatoid Factor in Serum of Individuals Exposed to Asbestos" – B. Pernis and E. C. Vigliani, University of Milan, Milan, Italy, and I. J. Selikoff, The Mount Sinai Hospital, New York, N. Y.

"Observations on the Pathogenesis of Asbestosis" – E. C. Vigliani and B. Pernis, University of Milan, Milan, Italy.

12:30 P.M. –
Luncheon

Session Chairman: J. H. Sterner
Eastman Kodak Company
Rochester, N. Y.

HUMAN EXPOSURE TO ASBESTOS:
ASBESTOSIS IN INDUSTRIAL POPULATIONS

Session Cochairman: J. C. Gilson
M.R.C. Pneumoconiosis Research Unit
Glamorgan, Wales

2:00 P.M. –

"Asbestosis in the United Kingdom" – J. C. McVittie, Ministry of Pensions and National Insurance, London, England.

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"Asbestosis Among Insulation Workers in the United States" – I. J. Selikoff, J. Churg, and E. C. Hammond, The Mount Sinai Hospital, New York, N. Y.

"Mortality Rates Among Asbestos Products Workers in the United States" – P. Emerline, U. S. Public Health Service, Washington, D. C.

"Secular Changes in Asbestosis in an Asbestos Factory" – W. J. Smither, (Asbestosis Research Council), The Cape Asbestos Company, Ltd., London, England.

HUMAN EXPOSURE TO ASBESTOS: COMMUNITY STUDIES

Session Cochairman: J. Higginson
University of Kansas School of Medicine
Kansas City, Kan.

"Occupational and Nonoccupational Exposure to Asbestos" – W. C. Hueper, National Cancer Institute, Bethesda, Md.

"Prevalence of Asbestos Bodies in Autopsy Cases" – J. C. Thomson, University of CapeTown, CapeTown, South Africa.

"Asbestosis: Geographical and Environmental Studies in South Africa" – G. K. Sluis Cremer, Pneumoconiosis Bureau, Johannesburg, South Africa.

"Pleural Plaques and Asbestos: Further Observations on Endemic and other Nonoccupational Asbestosis" – R. Kiviluoto, Tampere Central Hospital, Tampere, Finland.

Session Chairman: J. [illegible]. Wolfsie
United States Rubber Company
New York, N. Y.

Session Cochairman: L. Cralley
U.S.P.H.S. Occupational Health Research and Training Facility
Cincinnati, Ohio

8:00 P.M. –

"Inhalation of Fibrous Dusts" – V. Timbrell, M.R.C. Pneumoconiosis Research Unit, Glamorgan, Wales.

"Comparison of Impinger and Membrane Filter Techniques for Evaluating Air Samples in Asbestos Plants" – H. E. Ayer, Division of Occupational Health, U. S. Public Health Service, Washington, D. C.

"Developments in Dust Sampling and Counting Techniques in the Asbestos Industry" – S. Holmes, (Asbestosis Research Council), Turner Brothers Asbestos Company, Ltd. Rochdale, England.

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"Dust Measurements and Monitoring in the Asbestos Industry" – C. G. Addingley, (Asbestosis Research Council), British Belting and Asbestos, Ltd., Yorkshire, England.

"Measurement of Airborn Asbestos Dust by Instruments Measuring Different Parameters" – S. A. Roach, London School of Hygiene and Topical Medicine, University of London, London, England.

Discussion opened by T. Hatch, University of Pittsburgh, Pittsburgh, Pa.

TUESDAY, OCTOBER 20, 1964

Session Chairman: Harriet L. Hardy
Massachusetts Institute of Technology
Cambridge, Mass.

DUST CONTROLS AND STANDARDS

9:00 A.M. –

"Present Threshold Limit Value in the U. S. A. for Asbestos Dust: A Critique". – E. L. Schall, Occupational Health Program, New Jersey State Department of Health, Trenton, N. J.

"Economics of Dust Control" – D. W. Hills, (Asbestosis Research Council), Turner Brothers Asbestos Company, Ltd., Rochdale, England.

Session Cochairman: L. Silverman
School of Public Health, Harvard University
Boston, Mass.

PULMONARY ASBESTOSIS

"Radiological Classification of Pulmonary Asbestosis" – H. Bohlig, Municipal Hospital, Lüdensheid, Germany.

"Roentgenological Studies of Pleural Calcification in Asbestosis" – I. J. Selikoff, The Mount Sinai Hospital, New York, N. Y.

"Differential Diagnosis in the Pathology of Asbestosis" – J. Gough, Welsh National School of Medicine, Cardiff, Wales.

"Roentgenological-Pathological Correlations in Pulmonary Asbestosis in the United Kingdom and South Africa" – K. F. W. Hinson, Brompton Hospital and J. C. McVittie, Ministry of Pensions and National Insurance, London, England; G. K. Sluis Cremer and C. P. Theron, Pneumoconiosis Bureau, Johannesburg, South Africa.

Disscussion opened by P. Cartier, Thetford Industrial Clinic, Thetford Mines, Quebec, and I. Webster, Pneumoconiosis Research Unit, Johannesburg, South Africa.

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WEDNESDAY, OCTOBER 21, 1964

Session Chairman: H. L. Stewart
National Cancer Institute, Bethesda, Md.

9:00 A.M. —

"Epidemiology of Diffuse Mesothelial Tumors: Evidence of an Association from Studies in South Africa and the United Kingdom" — J. C. Wagner, M.R.C. Pneumoconiosis Research Unit, Glamorgan, Wales.

"Epidemiological Studies of Patients with Mesothelial Tumors in the London Area" — Muriel L. Newhouse, School of Hygiene and Tropical Medicine, University of London, London, England.

DIFFUSE MESOTHELIAL TUMORS
PANEL DISCUSSION

MODERATOR: W. U. Gardner, Yale University School of Medicine, New Haven, Conn.

"Criteria for Diagnosis of Diffuse Mesothelial Tumors" — W. T. E. McCaughey, Queen's University, Belfast, Northern Ireland.

"Histological Chacteristics of Mesothelioma Associated with Asbestos" — J. Churg, The Mount Sinai Hospital, New York, N. Y., S. Mooltenn, Middlesex General Hospital, New Brunswick, N. J., and S. Rosen, Armed Forces Institute of Pathology, Washington, D. C.

"Mesothelial Tumors in South Africa: Pathology and Experimental Pathology" — I. Webster, Pneumoconiosis Research Unit, Johannesburg, South Africa.

"A Biopsy Series of Mesotheliomata and Attempts to Identify Asbestos within Some of the Tumours" — D. O.'B. Hourihane, London Hospital Medical School, London, England.

"Pleural Mesothelial Tumors and Exposure to Asbestos Dust" — W. Glynn Owen, Broadgreen Hospital, Liverpool, England.

Discussion opened by A. Purdy Stout, Columbia University College of Physicians and Surgeons, New York, N. Y.

12:30 P.M. —
Luncheon

Session Chairmen: E. C. Vigliani
University of Milan, Milan, Italy

PROBLEMS AND PERSPECTIVES

2:00 P.M. —

"Trends in the Health of the Asbestos Worker" — K. W. Smith, Johns-Manville Corporation Manville, N. J.

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PULMONARY FUNCTION IN ASBESTOSIS
PANEL DISCUSSION

MODERATOR: G. L. Leathart, University of Newcastle, Newcastle, England.

"Pulmonary Function in Asbestosis: Serial Tests in Long Term Prospective Study" – M. Bader, R. Bader and A. Tierstein, The Mount Sinai Hospital, New York, N. Y.

"Routine Lung Function Studies of 830 Employees in an Asbestos Processing Factory" – R. Hunt, (Asbestosis Research Council), British Belting and Asbestos, Ltd., Yorkshire, England.

"The Discriminant Value of Pulmonary Function Tests in Asbestosis" – M. L. Thomson, W. J. Smither, Anne-Marie Pelzer and M. Hills, London School of Hygiene and Tropical Medicine, University of London, London, and The Cape Asbestos Company, Barking, Essex, England.

Discussion opened by J. L. Whittenberger, School of Public Health, Harvard University Boston, Mass.

12:30 P.M. –

Luncheon

Session Chairman: W. C. Cooper
School of Public Health, University of California
Berkeley, Calif.

ASBESTOS AND NEOPLASIA: EXPERIMENTAL

Session Cochairman: Katherine R. Boucot
Woman's Medical College of Pennsylvania
Philadelphia, Pa.

2:00 P.M. –

"Studies of Carcinogenesis of Asbestos Fibers and Their Natural Oils" – J. S. Harington and F. J. C. Roe, Chester Beatty Research Institute, Royal Cancer Hospital, London, England.

"Preparation of Asbestos Fibers for Experimental Use" – M. S. Badollet, Health Research Institute, Fairleigh Dickinson University, Madison, N. J., and W. A. Gantt, Occupational Health Program, N. J. State Department of Health, Trenton, N. J.

"Tests for Carcinogenicity of Asbestos" – W. E. Smith and Llonas Miller, Health Research Institute, Fairleigh Dickinson University, Madison, N. J.

"Tests for Effect of Asbestos on Benzo (a) Pyrene Carcinogenesis

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in the Respiratory Tract" — Llonas Miller and W. E. Smith, Fairleigh Dickinson University, Madison, N. J.

Discussion opened by J. C. Wagner, M.R.C. Pneumoconiosis Research Unit, Glamorgan, Wales.

ASBESTOS AND NEOPLASIA: EPIDEMIOLOGY

Session Cochairman: W. J. Smither
The Cape Asbestos Company, Ltd.
London, England

"Asbestosis and Bronchial Carcinoma" — T. A. Lloyd Davies and W. D. Buchanan, Ministry of Labour, London, England.

"Neoplasia Among Insulation Workers in the United States with Special Reference to Intra-abdominal Neoplasia" — E. C. Hammond, I. J. Selikoff, and J. Churg, The Mount Sinai Hospital, New York, N. Y.

"Cohort Analysis of Changes in Incidence of Bronchial Carcinoma in a Textile Asbestos Factory" — J. F. Knox, (Asbestosis Research Council), Turner Brothers Asbestos Company, Ltd., Rochdale, and R. S. Doll, M. R. C. Statistical Research Unit, London, England.

"Pulmonary Neoplasia Among Dresden Asbestos Workers" — G. Jacob, Krankenhaus, Karl Marx Stadt, and M. Amspach, Institute of Occupational Health, Dresden, G.D.R.

"The Relationship of Exposure to Asbestos to Pleural Malignancy in Belfast" — P. C. Elmes and O. L. Wade, Queen's University, Belfast, Northern Ireland.

"Association of Pulmonary Neoplasms with Asbestos Exposure in Northern Italy" — E. C. Vigliani, University of Milan, G. Mottura, University of Turin, and P. Maranzana, National Institute of Occupational Diseases, Lombardy, Italy.

Discussion opened by T. Mancuso, University of Pittsburgh, Pittsburgh, Pa., and G. W. H. Schepers, Institute of Industrial and Forensic Medicine, Washington, D. C.

6:00 P.M. —

Cocktail Hour — Academy Building, 2 East Sixty-third Street, New York, N. Y.

7:00 P.M. —

Informal Subscription Dinner — Academy Building

Keynote Address: J. C. Gilson, Medical Research Council Pneumoconiosis Research Unit, Glamorgan, Wales.

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WEDNESDAY, OCTOBER 21, 1964

Session Chairman: H. L. Stewart
National Cancer Institute, Bethesda, Md.

9:00 A.M. —

"Epidemiology of Diffuse Mesothelial Tumors: Evidence of an Association from Studies in South Africa and the United Kingdom" — J. C. Wagner, M.R.C. Pneumoconiosis Research Unit, Glamorgan, Wales.

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University of Milan, Milan, Italy

PROBLEMS AND PERSPECTIVES

2:00 P.M. —

"Trends in the Health of the Asbestos Worker" — K. W. Smith, Johns-Manville Corporation Manville, N. J.

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"Sequelae of Asbestos Dust Exposure" – J. C. Wagner, M.R.C. Pneumoconiosis Research Unit, Glamorgan, Wales.

"Changing Hazards of Asbestos Dust Expsure". – J. C. Gilson, M.R.C: Pneumoconoiosis Research Unit, Glamorgan, Wales.

"Multiple Factors in Relation to Neoplasia Among Asbestos Workers" – E. C. Hammond, The Mount Sinai Hospital, New York, N. Y.

PANEL DISCUSSION

Moderator: H. Heimann
Division of Occupational Health
U. S. Public Health Service
Washington, D. C.

The Section of Biological and Medical Sciences provides conferences for active workers in the special fields of biology and medicine.

This conference may be attended by interested Members of Academy, all physicians, research scientists, and science and me... ical students, as well as those invited to participate.

SECTION OF BIOLOGICAL AND MEDICAL SCIENCES

Preston L. Perlman
Chairman

Gabriel G. Naha...
Vice-Chairm...

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