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MEMORANDUM RE: -- MELLON INSTITUTE OF INDUSTRIAL
RESEARCH SYMPOSIUM ON DUST
PROBLEMS - PITTSBURGH - JAN. 15, 1935

On or about December 12, 1934 the Mellon Institute of Industrial Research addressed letters to some 85 industries having industrial disease problems inviting them to attend a meeting to be held under the auspices of the Institute on the 15th day of January. One of these invitations was received by the Asbestos Institute and, although the Asbestos Institute did not accept and was not officially represented, Johns-Manville Corporation requested and obtained permission to send a representative. The invitations expressly stated that "attendance at this meeting need entail no obligation."

Johns-Manville was represented at the meeting by the writer of this memorandum. Approximately 250 people were present representing over 50 industries which had accepted the invitation of the Mellon Institute. The Mellon Institute was greatly surprised at the remarkable response and it is my opinion that one cannot find a better indication of the serious nature of the problems it was the purpose of the meeting to discuss.

I was able to ascertain that the Mellon Institute had been prompted to call the meeting by representatives of the sand and glass and the refractories industries. Representatives of these industries conferred with Mr. E.R. Weidlein, Director of the Institute, and after advising him of the nature of their problem, of its wide-spread character and numerous menacing aspects, suggested the need of some form of concerted action on the part of those industries presently or potentially involved. I understand that Mr. F.W. Sherwood, Vice-President of Owens-Illinois Glass Company and Mr. Roger Hitchins, President of the American Refractories Institute, were the persons who presented the situation of the Mellon Institute. Mr. Weidlein, on behalf of the Institute, agreed to cooperate to the extent of calling the meeting and having the representatives spend a day in Pittsburgh as the guests of the Institute. There was some preliminary discussion as to the possibility of using the Mellon Institute as a clearing house for information and research upon aspects of the problem common to all industries but definite commitments were postponed until after the holding of the meeting.

An impressive list of experts specializing upon various aspects of the dust problem attended the meeting and

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delivered addresses. Among those were Mr. A.C. Hirth, a lawyer associated with Williams, Everman and Morgan, Toledo, Ohio, attorneys for Owens-Illinois Glass Company; Dr. Eugene F. Pendergrass of the X-ray laboratory, University Hospital, Philadelphia; Mr. A.J. Lanza, Assistant Medical Director of the Metropolitan Life Insurance Company; Dr. R.R. Bayers, Medical Officer in Charge of U.S. Public Health Service; Professor Philip A. Brinker of the School of Public Health, Harvard University; Mr. F. Robertson Jones, General Manager, Association of Casualty and Surety Executives; and Mr. Donald D. Cummings, Assistant Director, Garance Laboratory for Study of Tuberculosis.

The addresses delivered by these specialists, together with the open discussion that followed them, revealed, among other things, the very menacing character of the problem, its complex nature, the uncertainties attending most of its aspects and the necessity of some form of united action by the afflicted industries.

It was recognized that some aspects of the problem were peculiar to special industries but it was equally evident that other aspects were common to all. For example, only two forms of dust, namely, free silica and asbestos, are definitely known to produce disabling fibrosis of the lung. Even in the case of these dusts the problems resulting therefrom are quite different since the fibrosis resulting from silica is of a much more serious character than that resulting from asbestos in that the former predisposes to tuberculosis and is much more likely to have a fatal termination. On the other hand (and this illustrates one of the most serious aspects of the problem that is common to all dust producing industries) the fact that no other dust is known to produce disability has not prevented entirely groundless claims aggregating millions and even hundreds of millions of dollars being brought against industries which have no silica or asbestos dust hazard. For example, Mr. Lanza pointed out that no one had ever maintained that gypsum dust was harmful and yet, nevertheless, the gypsum industry had suits pending against it covering claims in excess of four million dollars.

It appeared that among the problems common to all industries were the following:

- (1) The menace of ambulance chasing lawyers in combination with unscrupulous doctors. The uncertainties surrounding diagnosis of any of the various forms of pneumoconiosis are so many that a question of fact is presented in every case. Expert testimony can be produced by both plaintiff and defendant and it is for the jury to decide whose experts are

correct in their interpretations. In making this decision, the jury is not likely to favor the opinion of the experts produced by the employer.

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- (2) The desirability of making various dust diseases compensable under properly drawn workman's compensation laws. One of the speakers stated that "the strongest bulwark against future disaster for industry is the enactment of properly drawn occupational disease legislation." Such legislation would (a) eliminate the jury and empower a Medical Board to pass upon the existence of the disease and the extent of the disability; (b) eliminate the shyster lawyer and the quack doctor since fees would be strictly limited by the law; and (c) permit the correcting of initial mistakes in the making of awards by providing for hearings to reduce or eliminate awards if proof could be adduced that the claimant was not disabled or that the extent of his disability had been over-estimated.
 - (3) Problems of ventilation, dust collecting and elimination, and respiratory devices.
 - (4) The establishing of standards (a) for dust counting and particle size determination, (b) for the taking of X-rays for diagnostic use, and (c) for the interpretation of the markings on the films so produced.

At the close of the discussion a Mr. Kurtz, Vice-President of American Refractories Corporation, made a motion that Mr. William P. Yant, Chairman of the meeting appoint a nominating committee who would nominate a group of individuals to serve as a committee for the formulation of ways and means to bring about effective cooperation of some character between the various industries for meeting and combating these phases of the dust problem common to all. This motion was carried and a Nominating Committee appointed which retired and upon returning presented to the meeting the names of seven individuals to act as such Committee. No other names having been placed in nomination, the following were elected to act as the Committee and report back to the various industries and groups represented at the meeting or to whom the invitation had been originally extended.

Vandiver Brown representing Asbestos, Cork and Non-Metallic

Dr. B.D. Saklatwalla representing Chemical, Abrasives, Alloys
and Non-Ferrous Metals

E.O. Jones representing Foundries

A.W. Sherwood representing Glass Sand, Ground Sand and Glass
Manufacture

A.J. Gentholtz representing Iron, Steel and Ores

A.J.R. Curtis representing Lime, Limestone, Cement and
Gypsum

Roger A. Hitchins representing Refractories, Ceramics and Glass

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I gathered that the proposal which would be made by the Mellon Institute would include, among others, the following:

- (c) The compiling of a comprehensive bibliography of all books, treatises and publications dealing with any aspect of the dust problem; and the evaluation thereof.
- (b) The compiling, digesting and correlating of data and information from various subscribing industries relative to their particular experiences.
- (c) The drafting of approved workman's compensation legislation covering pneumoconiosis.
- (d) The digesting of the laws of the various states which might affect the operations of industries presenting a dust hazard.
- (e) The outlining of problems requiring research or the establishment of fixed standards and the prevention of duplication of effort and expense along these lines.

The interest with which the discussions were followed and the enthusiasm which greeted any proposal for unified effort lead up to believe that the necessary support will be found for some sort of program along the above lines.

VANDIVER BROWN
January 13, 1935

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October 15, 1935

Mr. Donald B. Armstrong
Metropolitan Life Insurance Company
New York City

Dear Mr. Armstrong:

My letter to Mr. Ecker should very obviously have indicated what had been accomplished with the appropriations made by the Metropolitan to the Saranac Laboratory. One could hardly expect that you could be familiar with the technical aspects of this work. The following paragraphs indicate the scope of our investigations.

Our first objective was to discover methods of exposing large numbers of animals to the inhalation of various types of dust for periods of two or more years. This was accomplished and it was found that they would react to quartz and to non-siliceous dusts in a manner comparable to the response in human beings. Having determined that the various pneumoconioses could be reproduced in animals, the pathological evolution of the different forms of the disease was worked out in detail and checked with the occasional autopsy that could be obtained on human beings. This information was correlated with roentgenological appearances in both animals and human beings. Basic studies on pure silica, asbestos and limited number of non-siliceous dusts, marble, carborundum, iron and gypsum have already been completed. In addition to reports upon the experimental findings with these different dusts a classification of x-ray and pathological findings in the human has been published in collaboration with Drs. Lanza, McConnell, Sayers, Pancoast and Riddell.

As an institution devoted to the study of tuberculosis our ultimate objective is to determine in how far the various pneumoconioses influence native susceptibility to tuberculosis. Methods have been worked out for testing such susceptibility and we are still occupied in testing the effect of different types of dusts in this particular. It has been shown that, as in man, the animal exposed to pure quartz dust is extremely susceptible to tuberculosis. With asbestos dust there is a somewhat increased susceptibility but this is not nearly as marked as with quartz. Marble, coal and aluminum

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Mr. D. I. Armstrong, Oct. 15, 1935, p. 2

oxide dusts have no effect. Carborundum is apparently quite active although we have not been able to discover the reason.

We are now attempting to learn whether this alteration in resistance to tuberculosis is associated with disturbances in the recognized principles of immunity. If this could be established we might be able to formulate intelligent recommendations for the employment of men in silica-producing industries. Today it is not clear whether a man with x-ray evidence of long healed apical tuberculosis can be safely exposed to silica or not. One would like to know whether the individual with a negative tuberculin reaction is safer than one who does react when he enters the hazardous occupation. Does his previous infection offer him as much protection to re-infection while he is being exposed to silica as it would without this complicating factor?

More recently it has been discovered that, when non-siliceous dusts like coal and iron are inhaled simultaneously with silica, the reaction to the latter is materially modified. This finding will necessitate a prolonged investigation for most industrial exposures are of the mixed type. The modified silicosis of the foundry or the porcelain works is quite different from that of the Fisher lead and zinc miner who is exposed to pure silica.

With the methods and facilities that have been established at the Garange Laboratory we shall continue the investigation of the theoretical and practical aspects of this problem, systematically studying the effects of pure dusts and the various mixtures that one discovers in industry. The dual action of the primary effect of a dust and its influence upon susceptibility to tuberculous infection will necessitate a prolonged investigation but the results thus far obtained seem to be justified by their close correlation with what has been discovered clinically.

Trusting that this rather lengthy exposition has made clear the nature of the work carried out with the assistance of the Metropolitan Life Insurance Company, I remain

Cordially yours,

Leroy W. Gardner, M.D.
Director

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