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To: JF, DWR.
Copies: BAW/JFK/HRa/(Dr. Wagner P.R.U.)

23rd March, 1967

MESOTHELIOMA AND ASBESTOS

On 20th and 21st March, 1967 I visited Dr. Wagner at the Pneumoconiosis Research Unit in Cardiff.

Dr. Wagner commented on the health hazards associated with asbestos and the fact that the press will take place for many years.

Dr. Gilson was away in Montreal studying X-rays from Thorford Mines and Asbestos, as part of the international effort to establish firm criteria for the interpretation of radiological features in asbestosis.

Commenting on the role of the different types of asbestos in the aetiology of asbestosis, asbestos + carcinoma and mesothelioma, Dr. Wagner said that on experimental evidence it appeared that the amphiboles cause fibrosis more rapidly than chrysotile. As far as malignancy is concerned there appears from the South African evidence to be a definite association between exposure to crocidolite dust and the development of the mesotheliomas. With regard to carcinoma there is no definite indication that any type of asbestos is more involved than any other. He is not certain as to why these associations occur and is continuing his animal experiments in an effort to clarify various points at present not fully appreciated, namely the fate of various forms of asbestos after inhalation. Preliminary results would indicate that chrysotile is more rapidly eliminated from the lungs and may even be soluble and absorbed and eventually excreted. Crocidolite and amosite remain in the lungs for much longer than chrysotile, and appear to resist the tissue's attempts to get rid of them.

Dr. Wagner is going to South Africa in April to discuss the position on the amosite and crocidolite mining areas in the Northern Transvaal with the Pneumoconiosis Research Unit and Pneumoconiosis Medical Bureau. Thus far, no cases of mesothelioma have been recorded from this region, but it is felt that a fuller survey should be made. There is no apparent reason why amosite should be different from crocidolite; there is a slight possibility that the amosite has not been in full production for sufficient time, although it is stated by Gilson (1965) that it has been in production since 1920's.

The incidence of pleural plaques in asbestos exposed workers was discussed. These plaques, in majority of cases are benign but, in a few cases, mesotheliomas have developed in plaques. He demonstrated this to me by means of both histological sections and macroscopic lung sections. In Finland plaques are seen in anthophyllite mining areas but not mesothelioma. In this country

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plaques are commonly seen following exposure, but the exposure is usually mild. When asked what criteria he would regard as indicative of significant exposure in post-mortem lungs, he stated that they regarded more than 10 asbestos bodies per smear or thick section as strongly indicative of significant exposure.

The difficulty of an exact interpretation of the published results is the variation in method. Now a study is being undertaken where a standard method is being used and consecutive necropsy material from the General Population from 12 centres in Britain and Europe is being analysed on a statistical basis. Each centre is preparing 200 sections and these are being reported on by the examiners, so that each examiner sees 1/12th of the material available from each collection.

The main evidence suggesting that chrysotile is implicated in the development of the mesotheliomas comes from the United States. Firstly, Selikoff's studies and secondly, those in Pennsylvania by Mancuso, O'Donnell and Kieber. The Selikoff studies were criticised by the Johns Manville experts as they felt there was no proof of a definite chrysotile exposure, and some doubt on the fact that crocidolite may have been imported into the States earlier and in larger amounts than Selikoff stated. Information from Mancuso and O'Donnell is that there is no evidence that material other than chrysotile was used in Pennsylvania.

Dr. Wagner was most courteous and hospitable and I would very much like to reciprocate by inviting him to visit Rochdale and Hindley Green in the near future. I have spoken to Dr. Chrisley (the local Pathologist) about Dr. Wagner's interest in his collection of specimens and he agreed to let Dr. Wagner have complete access to his records and material. I believe a meeting at which the local pathologists and Dr. Wagner could exchange ideas could be most useful. I would like to suggest that Drs. Gilson and Wagner from the P.R.U. be invited to a closed meeting with yourself, Mr. Hills, Mr. Wells, Dr. Knox, Dr. Holmes and myself as well as representatives from other T. & N. Companies and the A.R.C. member companies. This would serve as a useful forum for the airing of our respective points of view.

Dr. H.C. Lewinson.

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