



JFK/HD

16th October, 1952.

The Seventh Saranac Symposium.
September 22nd to 26th 1952.

The Seventh Saranac Symposium took as its subject "the discussion of health problems pertaining to workers exposed by inhalation to industrial substances". It was attended by over 200 people and was representative of University interests, research foundations of Canada and the U.S., U.S. federal and state labour departments, insurance interests and legal authorities. From the Pneumoconiosis Research Unit of the Medical Research Council at Cardiff came Dr. C. Fletcher and Dr. Hugh-Jones. Dr. R.R.A. Marwether was present representing the British Ministry of Labour. There were several distinguished individuals from Canada, South Africa and the U.S. who attended in their private capacities and a large group of interested medical men who formed the bulk of the audience at the meetings.

On the first day a session was devoted to an attempt by seven speakers to suggest a definition of the term pneumoconiosis. There was much discussion on this subject but no unanimity was achieved, and it was resolved that a small committee be formed to attempt the definition in a manner which would satisfy both legal and medical opinion. The lack of an agreed definition did not prevent the Symposium from continuing its deliberations and each speaker used the word in his own sense. To the average listener pneumoconiosis implied a disability arising primarily as a result of dust inhalation, and characterized by breathlessness to a greater or lesser degree.

The pneumoconiosis of coal miners received a whole days consideration with British and American contributors. It was obvious that the more careful studies had been made in Britain and that British miners obtained more acceptance from the audience. Miners pneumoconiosis is only slowly achieving recognition as an entity separate from silicosis in the U.S. and there are many interests opposed to the acceptance of this view over there. It was obvious from the great interest shown in this subject that it is attracting widespread attention all over the world and that there will be repercussions from this activity in all pulmonary dust diseases. The large number of workers employed and the isolation of many of the areas of coal production enable good epidemiological studies to be done.

In X-Ray work the British have defined new Radiological Standards both as regards the quality of the films and the efficiency of the Radiologists who interpret them. These have been made the subjects of statistical analysis. Finality has not been reached but the amount of work done has caused an awakening of interest in the subject and a universal questioning in the minds of those who try and interpret the shadow graph in terms of physical incapacity or pathological process.

From the Cardiff Unit came an important study on pulmonary function by Dr. Hugh-Jones. This work is being paralleled in the U.S. and Canada. One had the impression that while much work had been done in the States it was less conclusive than the work done here. This is a line of study with great potentialities but it is still on a research basis. Already, however, in Canada and the U.S. a litigant may support his case - especially if it is weak radiologically and chemically, - with a functional report. It was

Chemically.

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emphasized by Dr. Hugh-Jones that loss of function - breathlessness - is the cardinal complaint of the pneumoconiotic and that the functional study is an attempt to evaluate this by instrumental methods.

From Canada came the first functional studies on men exposed for ten years or more to asbestos dust by Dr. F. Gregoire of the Lavalier Institute, of Montreal. These were impressive but did not do more than relate the obvious truth that a man with breathlessness which was truly related to loss of elasticity in his lungs from fibrosis could be shown to have a poor pulmonary function instrumentally. This invasion of the physiologist into the pneumoconiotic field is a development to be watched with interest.

The subject of pneumoconiosis and pulmonary cancer was considered from the angle of the chromate, beryllium and asbestos industries. It was allotted a days consideration. There was a general statistical review of this subject by Dr. M. Levin of the N.Y. State Department of Health which was first class. This lecture, which was illustrated by about thirty slides lasted half an hour and was delivered too rapidly to report in detail. Full study will be possible when the proceedings are later published. It concerned the statistical methods by which environmental trends could be judged from the published vital statistics and he pointed out many inconsistencies in the published work. The case against the cigarette could not be regarded as proved while it was certainly suggestive. Many other environmental factors such as tar roads, soot, and fumes from the combustion of oils and petrol were considered important. Dr. Hueper of the National Cancer Institute spoke of the asbestos industry with suspicion. He used the published figures of others and as all are agreed that these are inconclusive and fallacious he was unable to do more than record his impression that asbestos was the necessary prerequisite for the association with carcinoma, that the presence of asbestos fibre in the section was proof of exposure and that asbestos workers as a class were not unduly susceptible to carcinoma of the lung.

Dr. Paul Cartier from Thetford Mines gave his paper on pulmonary cancer affecting asbestos miners. He was good enough to give me copies of his tables which are included with this report. As far as this study goes no relationship with carcinoma was demonstrated in the asbestos workers of the Thetford area or the cases of asbestosis occurring in the mining area. I would prefer the opinion of a British Medical Statistician on these figures before committing myself on the subject of this paper. Incidentally the figures given refer to 53 autopsied workers out of 300 who have died in the ten year period stated.

Dr. F. Pratt of the Saranac Laboratory observed that in the unmentioned number of lungs seen by him showing asbestosis and carcinoma the growth was related to the large bronchi. Professor Lynch, Professor of Pathology in the Medical College of the State of South Carolina reported that he had seen his first case of association of asbestosis and carcinoma in 1934 (first Rockdale case 1932), and that he had seen 3 cases (6.3%) altogether in 46 lungs examined. His final comment was that the evidence supports suspicion and that the available information does not allay suspicion.

No mention was made of the experiments now proceeding on mice in the attempt to show a causal relationship between pulmonary tumours and asbestos dust inhalation. Dr. Marwether opened a discussion on this subject with a reiteration of his previous statements with recent numerical additions of cases reported. His

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failure to give a yardstick other than the silicosis autopsied group was adversely commented upon, and his failure to produce numbers of working population at risk failed to convince the Symposium that his series was other than a selected group of chest cases whose death was investigated microscopically. As is well known to us the group of asbestos workers on whom autopsy is made is selective in that only the subjects who die of heart failure, acute and chronic thoracic infection and other groups likely to reveal a relationship with asbestosis are regularly autopsied. The surgical group of deaths, the traumatic deaths and the obviously non-asbestotic forms are seldom submitted to post-mortem examination and their number is unknown.

While at Saranac Lake I met Dr. Wm. E. Smith of the Department of Industrial Medicine Post Graduate Medical School of New York University. He is the secretary of the Cancer Preventive Committee of the U.S.A. and he expressed great interest in my figures relating to the population at risk in Rochester during the past twenty-two years and the numbers of lung carcinomata recorded. As the subject of pulmonary carcinoma is almost of headline interest at the moment and every avenue, industrial or otherwise, is being explored in search of clues, the submission of the statistical material which I have collected to a competent medical statistician would seem to be a matter of urgency. I was able to help Dr. W. Smith to a fuller appreciation of the method of collecting statistics on asbestosis over here. This was a subject which had greatly puzzled him when he visited this country in 1949 in quest of such information. His full report is included in the Proceedings of the Cancer Preventive Committee a copy of which is attached. Dr. Smith is a much respected authority on the subject of Industrial Cancer in the U.S.A. and is in a position to submit to his Committee any information of value in this field without necessarily revealing the source. It would be possible to make through him a contribution of value on the subject of asbestosis and cancer even though publication were delayed pending fuller study of the material or the tardiness of the usual channels.

On the ^{CLINICAL} chemical side of the study of pneumoconiosis we were reminded by a sound physician, Dr. W.S. McCann, Professor of Medicine in the University of Rochester N.Y. that the examining doctor could make his contribution and should be the central figure in this field. He was the co-ordinator of the various instrumental studies and could best assess them. Dr. McCann brought the Symposium back to medical philosophical concepts with all the power of a persuasive speaker and a gifted and obviously beloved physician. Incidentally he reminded the meeting that the heart also lived in the chest.

The legal aspects were discussed on the closing day. These naturally had reference to the practices current in the U.S.A. where there were great legalistic differences between the States. The value of Medical Boards as assessors was maintained by some groups and equally distrusted by others who do not like to see either the workers or the insurers interest subjected to a tribunal without appeal. It was mainly a record of differences of State usage, of conflict of Federal and State interests, and of the degree to which politics can invade the industrial life of a democratic state. It was noteworthy that the lawyers spoke with greater precision and assurance than the doctors who must have sounded most unscientifically vague to the lawyers. Their command of medical terms - already in dispute among the doctors - seem to indicate that the legal meaning of these was in no doubt with them.

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In his concluding remarks to the Symposium Dr. A. J. Vorwald enumerated the points of agreement and difference which had emerged and stressed the value of such joint deliberations to all the interested parties. He had been in attendance for the full period of every session and had shown an admirable tolerance and forbearance as well as qualities of leadership.

J. P. Knox.

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GENERAL REMARKS.

In such a gathering of people as occurred at Saranac Lake it was natural for there to be much private contact between various interested parties. In the more abstruse and detached scientific work it could be appreciated that most of the workers present were of high academic status and that their views were not coloured by political, insurance or labour motives. For the rest whose interest mainly centred around the applications of these principles it was obvious that opinions were coloured by affairs. In the field of coal mining where vast numbers are employed and powerful interests are in conflict there were those who admitted that their views had made them unpopular and others again who had profited greatly from these clashes. In no field was there more obscurity, more vagueness in all phases of its discussion both in public and private than in the field of asbestosis. Here we enter a territory where the following propositions seem to apply.

1. There are no generally accepted clinical standards for different degrees of the condition.
2. No agreed pathological standards on autopsy material.
3. No agreed standards of impairment of pulmonary function.
4. No vital statistics published giving comprehensive information.
5. No accepted X-ray standards.
(F₁, F₂ and A₁, A₂ are the theoretical standards but they are not agreed in particular instances and do not correlate with 1, 2 or 3).
6. No knowledge of susceptible types.
7. Relationship with I.D. not clearly defined.
One view which prevails in Rochdale has not, owing to lack of published data, even been considered elsewhere.
8. Facts on the subject of asbestosis as between fibres of different origin are not agreed.
9. The work on the experimental animal is agreed as of some value as a guide, but there is no uniformity in the application of this work to industry.
10. British figures, which are mostly Merewether's, have been so much at variance with American experience that even when elucidation is attempted by their author himself no correlation is evident.
11. Differing dust count practices here and in U.S.A. greatly increase our difficulty in judging safe Works dust concentrations.
12. The lack of comprehensive study of autopsy material, as regards the amount and range of fibre size it contains, prevents a link up being made between human and experimental asbestosis.

In public it was stated by Dr. Vorwald speaking under the chairmanship of Dr. Hatch of the Mellon Institute that the number of people at risk in the U.S.A. to inhalation of asbestos dust in

industry was 1,500. Dr. Lanza in private agreed with this but others, notably Dr. K. Smith of the J.-M. Corporation, Dr. Huesper and Dr. W. E. Smith consider that the number might be in the region of 35,000. This large divergence must be due to a conflict of interest. There are no scheduled areas, as we know them, in the U.S.A. and no Pneumoconiosis Boards conducting regular examinations. The P.B.'s were criticised for not publishing their standards and despite assurances from Dr. Merewether that the British Standards were just, fair and medically commonsense ones, which worked all the better in practice from not being fully or publically defined, questioners at Saranac were far from satisfied. (Merewether's final retort to a man who asked a question on these lines three times was "I think you are having just as much difficulty in framing your question as I am having in answering it". This was considered a classic riposte and got the biggest laugh of the meeting).

As regards the publication of the Saranac work on human asbestosis I received evasive replies. It is possible that much of the material used has come from mining areas and will not be fully applicable here. No single institution in America has had access to a large and representative amount of pathological material and most people lean heavily on the work of Glayne who is widely quoted both with and without acknowledgment.

No Works surveys on the populations of any asbestos works for comparison with Merewether's original report had been done. Dr. K. Smith of the J.-M. Corp. had contemplated this but had not got around to it yet, so we were unable to compare notes on this subject.

The experience seems universal of the effect on the worker of a diagnosis of asbestosis. All are agreed that it is bad and seems to affect him both physically and psychologically. It is the one point of unanimity of British and American doctors on this subject.

The best informed Works Doctor whom I met was undoubtedly Dr. K. Smith of the J.-M. Corporation. His experience extends over both mining and industrial textile processes. It was through an invitation from him that I was able to inspect the Works at Asbestos and I was fortunate in having him as a guide before he takes up his new appointment as the first chief M.O. of the J.-M. Corp. with headquarters in New York.

On the subject of dust counting I found the statements made very confusing. The Greenberg Smith method generally used is a wet method. I have made technical details of this method available to Mr. Dawson and Dr. Holmes in our Research Department. Mr. Dawson will report on its correlation - if any - with our Thermal Precipitator method. In the absence of methods to abolish all dust in the air at the Works the known risk must be assessed as accurately as modern methods allow. Methods of dust evacuation can only be judged scientifically by the most careful dust counting methods. These do not appear to be practised in the United States or Canada in a routine way.

J. F. Knox.