

In April of last year the Mines Department held an International Conference on Pneumoconiosis in Johannesburg. This was done in collaboration with the mining industry and also the trade unions and associations which represent the various branches of the industry. Apart from the large contingent of South African scientists, some 60 specially selected experts from 15 other countries were invited to attend and to participate in the conference. Papers read numbered 120 covering a large variety of subjects relating to the scientific and other aspects of pneumoconiosis and, by and large, the conference is acclaimed as being one of the best ever held on this subject.

The proceedings of the conference have now been bound in a very handsome volume which is now ready for publication. The publication contains the papers read as well as edited summaries of all the discussions which they elicited at the conference.

This afternoon, the President of the conference, Prof. S.F. Oosthuizen presented the first copy of this publication to Dr. the Honourable Carel de Wet during a cocktail party held at the house of the Minister and Mrs. de Wet.

Accepting the book the Minister said:-

"It is a pleasure and a signal honour to accept the first copy of this important publication. The appearance of this publication signifies an achievement of which South Africa can be justifiably proud and I wish to express my sincere appreciation to the President, Prof. S.F. Oosthuizen, and his organising committee who were responsible for arranging the conference and also to the trade unions and the mining industry for the unselfish co-operation which they gave my department to make this conference possible. I also wish to thank Prof. H.A. Shapiro and the members of his publication committee for their contribution towards the completion of this outstanding publication. I believe that this is the most comprehensive scientific manual on pneumoconiosis which exists in the world today. It is a complete record of the latest world wide knowledge on the vexed and important subject

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of dust-diseases and I am convinced that it will serve industrial physicians, medical institutions centres, professors and lecturers at universities and medical training centres as a useful guide and text-book for many years to come.

The conference was convened to afford us an opportunity to compare our own knowledge with that of other countries and to measure it against theirs; to evaluate the status and quality of our research and to ascertain whether any shortcomings existed. Amongst others, a particular objective of the conference was to have a close look and to sort out the relationship between asbestos and carcinoma, i.e. a rare type of lung cancer which is alleged to be caused by the inhalation of microscopic fibrules of asbestos. Considerable attention was devoted to this question at the conference and, in view of the fact that the proceedings of the conference will now be distributed freely, I consider it necessary to inform the public properly about this matter and to place the health hazards connected with exposure to asbestos in proper perspective.

Much has been written in scientific publications and in the daily press during the past few years about the dangers of inhaling asbestos. A lot of these reports were written for their sensation value and were designed to promote a public fear for asbestos in any form. Some authors named asbestos the "deadly dust" and others forecast tremendously increased incidences of cancer in the employees of the asbestos industry and even in the population living near an asbestos industry. Even the use of garden furniture and domestic equipment containing some asbestos was held to be dangerous. The use of asbestos as a binder in tarmac and in brake linings of cars and trucks was said to be dangerous and unacceptable. Even asbestos cement piping was held to be a health hazard if used in domestic water supply systems.

A thickening of the walls of the more sensitive tissues of the lung can be brought about by the inhalation of asbestos dust and, in an advanced stage, it can cause a disturbance of the oxygen supply to the red blood corpuscles. This thickening is known as asbestosis as distinct from the dust-disease known as silicosis, which is caused by silica dust and is manifest as a nodular scar in the lung-tissue. This effect of silica or asbestos dust on the lungs is known as the fibrogenetic characteristic of the dust and research has shown that

silica dust is considerably more carcinogenic than asbestos dust.

Exposure to small concentrations of asbestos dust can therefore only cause sufficient fibrosis to disturb the normal lung functions after many years. It has been held, however, that such slight exposure to asbestos dust can cause cancer of the lower respiratory system, but recent research has cast doubt on the validity of this theory.

There are two types of cancer of the lower respiratory system, viz. the well-known broncho-genetic cancer which is more common in males and malignant growths on the pleura which is known as mesiothelioma of the pleura. The latter has been the major cause for concern because it is extremely rare and there were indications of a greater incidence amongst people exposed to relatively low concentrations of asbestos dust, i.e. amongst the population living in the vicinity of asbestos mines or factories.

Although the total incidence of mesiothelioma of the pleura could not be ascertained for all countries and although reliable data on the number of people exposed to asbestos dust in their living environment is not available the statistics below will give some indication of the incidence of this type of cancer. In South Africa nearly all cases of mesiothelioma recognised during the past 15 years were noted, the diagnosis having been controlled by a panel of leading pathologists. In this way approximately 250 cases of this disease have been discovered. In a similar study in the United Kingdom between 500 and 700 cases were discovered. These figures are very low when compared with the annual incidence of ordinary living cancer in Britain.

While all varieties of asbestos have been held to cause cancer, available reports indicate that blue asbestos is more dangerous. Most of South Africa's blue asbestos is mined and milled in the Northwestern Cape Province, but a percentage comes nonetheless, from the Northern Transvaal. No case of mesiothelioma has, however, been reported amongst people exposed to asbestos dust in Northern Transvaal only as yet. If blue asbestos had been the cause of the cancer at least 10 occurrences of mesiothelioma would have been expected in the Northern Transvaal.

This line of research indicates that asbestos might be a factor in the genesis of mesiothelioma by importing another carcinogenic element

into the lungs or by keeping the lungs in contact with such an element. This other element could possibly be tobacco smoke or a mineral or a virus. There is reason now to doubt that asbestos is solely responsible for mesothelioma. It seems that an additional factor or element must be present before asbestos will act as a carcinogen.

Unfounded and unjustifiable allegations about the dangers attached to exposure to asbestos dust have affected the asbestos mining industry and other asbestos industries and detrimentally has caused unnecessary panic about asbestos amongst members of the public. I wish, therefore, to emphasise that normal use of equipment and products containing asbestos, that is, garden furniture, asbestos-cement piping, heaters and other kitchen equipment, holds no dangers. The use of reasonable amounts of asbestos as a binder in road surfacing and sports fields and the use of asbestos-cement piping for water schemes presents no risk to the human life.

Before the conference I assured the mining trade unions that if matters should emerge from the conference necessitating action, or even legislation, on the part of my department I would take the necessary steps to ensure that these matters are put right. After the conference I reiterated this undertaking. I wish, therefore, to mention a few matters which emerged from the conference:-

1. From the papers read at the conference and particularly from the discussions which followed it is obvious that the Republic is a irrefutable leader in the field of research into dust diseases and, especially in respect of research connected with asbestosis and mesothelioma it lags behind no other country;
2. It was also evident that our facilities for research and for medical control over our mineworkers are unequalled in the world;
3. In respect of diagnosis certification and compensation for dust diseases in the mining industry the Republic is more sympathetic and lenient towards the worker than any other country, and its legislation is universally

regarded as being of the most enlightened and progressive anywhere. I wish to emphasise that I am not referring to the scales of compensation here but to the administrative and the medical approach to certification for the purpose of compensation;

4. Since the birth of the mining industry research in South Africa has been focussed, in the main, on dust diseases and, perhaps too little attention has been given to other diseases common amongst mineworkers and to other factors which might affect their health adversely. There is clearly a case for research in these diseases and other harmful factors;

5. Finally, it became abundantly clear from the conference that the phenomenal industrial development in the Republic during the past two decades has brought with it, industrial health problems which require study and research. It is in the public interest that this matter be attended to, and I have already taken the necessary steps to discuss this outcome of the conference with a view to action.

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17/6/70

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