BOOK REVIEWS

Symposium on Dust Control in the Pottery Industry, 8th April, 1960. (Spec. Publ. 27.) (Pp. 95; illustrated.) Stoke-on-Trent: The British Ceramic Research Association. 1961.

This report of the proceedings of a one-day conference held by the British Ceramic Research Association in April 1960 under the chairmanship of Dr. N. F. Astbury begins with a paper by E. Posner on pneumoconiosis and tuberculosis in the North Staffordshire pottery industry. He compares and contrasts the results of two surveys of pottery workers by mass radiography carried out in 1952-1954 and 1955-1958. In the first survey, 40,887 or 72% of the population, and in the second, 37,819 workers (78.4%) from the various branches and occupations in the industry were x-rayed. In both surveys more women than men were examined. In the first, 872 new cases of pneumoconiosis were discovered, as compared with 492 in the second survey. Most of them came from general earthenware and mixed factories and from china factories. The average percentage decrease in new cases for six main groups was 43.6, but was only 7 for china and 14 for sanitary earthenware and fireclay. Marked differences were noted in the proportions of radiographic categories in the two surveys, because in the first 23% fell into the group with massive shadows and in the second 11% were in this category. He draws attention to the discrepancy between his figures and those published by the Ministry of Pensions and National Insurance and offers two possible explanations. About 10% of all workers with radiographic evidence of pneumoconiosis do not submit a formal application to the Pneumoconiosis Panels. Moreover, Category 1 (of the 1950 International Classification) is often not recognized by the Panels for purposes of diagnosis or certification. The applications of at least some workers whose films show that category are turned down as a result of scrutiny of their films, with no clinical examination. Without discussing the merits or otherwise of this procedure, Posner thinks that a diagnosis of the minimal changes is of great importance in studying the epidemiology of the disease and thereby for its prevention. The first survey revealed a large and apparently unexpected number of new cases of pneumoconiosis in china makers, and 53% of these were china throwers and turners. They were unexpected because the china body, unlike that of earthenware, does not contain flint. There is however a fairly high free silica content in the china stone used as a constituent of bone china. The problem of dust in china potter's shops still needs extensive research, despite, or perhaps because of, increasing mechanization.

V. B. Jones deals comprehensively with the implications of the Pottery (Health and Welfare) Regulations, and concludes that over the years the risk of disease in the potteries is much less than it was in the lead processes, the

flint processes, and in the dusty processes generally. But there is still much to be done before the risk of pneumoconiosis can be eliminated. In flint milling, for example, many cases occur after only 10 or 12 years' exposure. One of Posner's cases, however, had only 18 months' exposure.

The methods of assessment of dust conditions are discussed in detail by W. A. Bloor, together with the curves for dust retention in the lungs, but unfortunately he gives no analyses of dust clouds in the various pottery processes. J. M. Palmer's paper deals with the design of dust control apparatus; he emphasizes that there should be a maximum degree of enclosure of the process; that there should be a physical barrier between the operative's face and the dust source; that the exhaust outlet should be correctly placed in relation to the operative's body, and that there should be streamlining of the interior of the exhaust hood to prevent air turbulences that would be set up by changes in the direction of the air flow. These principles have been applied successfully to a number of pottery processes.

C. J. Stairmand's paper is devoted to the problem of dealing with the dust after it has been extracted from the workrooms through properly-designed hoods. He goes thoroughly into the theoretical and practical aspects (including the cost) of the efficiency of dust collectors for dusts of various particle sizes. A description is given of an apparatus for testing filter fabrics with radioactive aerosols. With this method and other specially developed techniques he has tested over 100 types of fabric. Cotton cloth has an efficiency of 22, wool cloth 33, wool felt 93, and asbestos or glass paper 99, with dusts of a particle size under 1μ . Fabrics can be specified for any duty, but he thinks that real progress will not be made in the pottery industry until accurate quantitative data concerning the dust conditions are available.

W. A. Bloor contributes another interesting paper on protective clothing, and he shows that cotton fabrics pick up dust easily and overalls made of them can be an extra source of dust pollution of the atmosphere. After testing 30 different fabrics, he found that the best material for overalls or aprons was "terylene".

A. Dinsdale, in summing up the conference, said that at least two important facts had come to light. First, that there was a pneumoconiosis risk in the china-making processes, and that it had to be acknowledged that there was a risk with dusts of a low free silica content. Secondly, that there was also an appreciable risk in the earthenware-making shops with processes involving only plastic clay in the wet state. More investigation was clearly needed. The one-day conference on dust control constituted an historic occasion for the pottery industry.

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