

This large volume presents an extensive review of the various fields of radiology in the wide experiences of the United States Army in World War II. The foreword notes the neglect in the documentation of information obtained in World War I and the failure in anticipation of the problems encountered in World War II. This contribution stresses the value of the recording of available facts in the organization for any further major conflict.

The records are divided into those obtained from the various 'Theaters of War' and considerable clinical material is included but this is so scattered and poorly presented as to be of little value.

An interesting feature is the description of the enormous routine radiological chest surveys organized for recruits and the various techniques that were used. In 1944 a chest radiograph was a prerequisite in Physical Examination for Mobilization. Difficulties were naturally encountered in assessment of rejection standards with regard to calcified tuberculous pulmonary lesions. It was agreed that large lesions might break down under war-time circumstances and the criteria recommending that men could be accepted were as follows:

(1) Residual lesions in the thorax did not exceed 1.5 cm. in diameter, (2) the total number did not exceed five; (3) calcified lesions of the pulmonary parenchyma could be accepted if the number of lesions did not exceed ten. The diameter of any must not exceed 1.0 cm. but all the others must be less than 0.5 cm. in diameter.

Difficulties in the maintenance of equipment are described in detail and shortages in ancillary apparatus caused many problems. Many instances are given of the ingenuity of individual radiologists in the clever improvisation of simple but effective apparatus for techniques such as kymography and localization of intraocular and other foreign bodies.

Practical difficulties in producing good radiodiagnostic techniques with limited available facilities at the front in combat areas are well described. The radiographic problems of the tropics include the difficulties of coping with melting gelatine emulsions and the effects of fungus on the radiographs. The extreme cold of winter in Alaska caused other technical troubles.

The major contribution is a report of the Organization and Administration of Radiological Units in the various 'Theaters of War'.

The space devoted in a war record to the experience and results of radiation therapy is a little surprising but emphasizes the differing trend in the United States of America where diagnostic and therapeutic radiology combine as a joint speciality.

The last 100 pages are a most interesting story of the role of radiology in the development of the atomic bomb. The method of production of the atomic bomb is indeed fascinating. The planning of the vast organization needed, combined with the speed and secrecy involved, is described in considerable detail. Protection hazards concerned not only radiation but other toxic substances, such as uranium hexafluoride, beryllium, carbon tetrachloride, and many new unknown toxic solvents. Detailed descriptions of the resulting effects of

the bomb include radioactive and blast damage to humans and property.

G. B. LOCKE

Inhaled Particles and Vapours. II. Edited by C. N. Davies. (Pp. 605; 140s.) Oxford: Pergamon Press. 1967.

This large volume contains the Proceedings of an international symposium organized by the British Occupational Hygiene Society and held at Cambridge from September 28 to October 1, 1965; it follows a similar volume published six years ago containing the Proceedings of the Oxford Symposium held in 1960.

The papers are arranged in seven groups. The first group comprises six papers on the anatomy and physiology of the lungs in relation to particle retention and clearance. The second group of 11 papers deals with the response of the lungs to dusts, starting with the functional changes in airway calibre, and the pathological reactions to silica and other dusts. There follow 11 communications on the clearance of dusts from the lungs of animals and a further five on deposition and clearance in man. The fifth and sixth sections of nine papers deal with problems in the human subject related to particle size, dust deposition, and the relationship between pneumoconiosis and dust exposure. Finally there is a group of six papers on methods of evaluating dust exposure in factories and mines.

It is difficult to do justice in a short review to the breadth of this collection. The majority of the papers are concerned with laboratory studies although most are orientated towards practical rather than purely theoretical aspects of their subject. Following each paper there is a summary of the discussion sufficiently detailed to be of considerable value.

The general reader will perhaps be surprised at the many gaps in knowledge of factors determining deposition and clearance of particles and vapours in the human lung. Admittedly a general picture has been established but the wide variability between different subjects suggests that many details remain to be added. Perhaps the use of radioactive techniques demonstrated in three of the papers on the human subject may hasten this knowledge. Much effort has been expended in correlating dust dosage with the radiological category in large groups, especially of miners, and this work has been fruitful; it has brought nearer the time when the response of the individual must be considered rather than the group and in this respect knowledge derived from the inhalation described in Section IV of the Proceedings may be relevant.

In the last section on methods of dust measurement the growing acceptance of gravimetric techniques is evident, and the last paper describes a gravimetric size-selecting personal sampler to monitor the environment of the individual conveniently throughout his working shift.

There must be few interested in the biological effects of dusts and vapours either in the theoretical or practical aspects who will not find something to interest them in this fascinating volume.

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Inhaled Particles and Vapours. II

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