MINIATURE MASS RADIOGRAPHY: WHAT IT IS AND WHAT IT CAN DO.

By D. J. GUNSTON.

In miniature mass radiography medical science has a discovery of such potential importance as to rival anything of recent years, with the possible exception of the penicillin moulds. It represents a highly promising application of modern photographic science to the problem of disease, in this case pulmonary tuberculosis.

Just what is miniature mass radiography? All readers will know the ordinary full-size X-ray apparatus, costly and cumbersome in use, which has been a vital feature of hospital work for years. This new method is revolutionary in principle. Instead of the large full-size picture being taken of the chest, it is designed to take miniature photographs, 1 in. square, or scarcely larger than a postage stamp, at high speed on lengths of very sensitive film, instead of plates.

There is no doubt that, in its unrestricted use on a nation-wide scale, where every pair of lungs in the land are examined periodically, lies much hope for the final eradication of tuberculosis as a scourge of society. Rome was not built in a day, and such fulfilment of the scheme must inevitably be on a long-term basis; but coupled with better social conditions in nutrition and housing, such results are quite within the bounds of possibility. Unfortunately, before the disease bacilli can be conquered, however, a battle has to be fought with public apathy and ignorance.

The use of the X-ray is recognised as a vital factor in the diagnosis of the complaint, for through its use can be detected slight traces of the early establishment of tuberculosis that may be overlooked by even the most skilled doctor. Most important of all, early diagnosis and treatment go a long way towards cure and the X-ray method ensures early detection of the disease when even the patient concerned may be quite unaware of it and suffer no symptoms.

The standard type of mass radiography unit adopted by the Ministry of Health for general use is a masterpiece of engineering design and efficiency. British-made throughout, portable in construction and so completely foolproof that the machine will not operate until every part is functioning correctly. Two separate sections comprise the complete unit. One contains the camera which actually takes the picture of a fluorescent image thrown by the X-rays on to a screen housed in the other section. The usual danger to the operatives is minimised, for they stand behind metal protective screens when the unit is in use. The whole apparatus can be moved about from district to district and building to building quite conveniently. Tools are unnecessary for assembling it, as sockets and slide-ins are fitted for every connection, and two men can erect the unit ready for use in six minutes.

A card bearing a serial number for each subject is inserted in the machine and photographed with him, thus avoiding any possibility of confusion of subjects. After processing the 5-ft. lengths of film are projected, image by image, on to a small screen, rather like a magic-lantern show, for examination by the radiologist. Working with a stenographer, who notes his observations in each case, he can deal thus with 400 pictures an hour. Working, as the plan envisages, in works, factories, schools, and so on, each unit can deal with large numbers of people very speedily, conveniently and cheaply. Convenience of operation of course depends upon efficient organisation beforehand to avoid waste of working time and congestion at the machine. Cheapness is proved by the fact that 500 miniature pictures may be taken for the cost of one large one.

Each unit costs £2,000, and, owing to the usual shortage of labour and materials, only one a month is being released for civilian use at present. It is hoped that by 1947 there will be enough machines to cover the entire country.

When the Ministry of Health unit visits each area examination by this method is quite voluntary and results have nowhere been anything like 100 per cent. It should be the duty of everyone in the nursing profession to persuade the general public to submit themselves for this quite harmless, free and confidential examination, for without full-scale action its efficiency is reduced. Apathy must be overcome for the half-dozen people who refuse to take advantage *may* be carrying the disease and pass it on to others, thus defeating much of the good work otherwise achieved. Often, of course, people's fears are quite groundless; but in every case it is to the advantage of everyone, not least the individual concerned, to avail himself of this great scheme.

There is placed within our reach something of inestimable value for all time in the fight against ill-health. Don't let us neglect its possibilities.

DIETITIANS.

A committee of the Nutrition Society, reports *The Times*, recently produced a memorandum on the training and qualifications of dietitians. It recommends high and uniform standards of training, preferably through a university degree course, with financial provision to enable catering managers and supervisors, as well as those who have controlled large-scale kitchen establishments during the war, to obtain full qualifications. Stress is rightly laid upon the practical elements in the course. There is probably no subject in which pure theory is less applicable or more dangerous. When trained, dietitians should be able to look forward to a useful and varied career. In the past they have worked almost exclusively in hospitals and schools, and in such institutions the post of dietitian is essential. It is suggested, however, that a wider range of opportunities should be looked for. In particular there is a need for dietitians to advise medical officers of health, not only on the food used in hospitals, schools and orphanages under their care but also on the dietetic side of infant welfare clinics, maternity services and general educational activities. Such an adviser could also take part in nutritional survey and be available for smaller institutions which could not perhaps employ a full-time dietitian of their own. Positions in Government service and in industry may also become open to trained dietitians and their registration as qualified medical auxiliaries would protect the public as well as the profession. More trained dietitians would go far to prevent this. The committee setting out the new plans has gone into great detail, and one cause for congratulation is that it has established a standard mode of spelling "dietitian."

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