

Letters to the Editor

THE PORTABLE, PLASTIC MCARTHUR MICROSCOPE FOR THE EXAMINATION OF SKIN-SMEARS IN LEPROSY

Sir,

In previous issues of this Journal, attention has been drawn to the development of a plastic model of the well-known portable McArthur microscope. In the preface to the Users Handbook, published by the Eritrean Relief Association Public Health Programme (BCM Box 865, London WC1V 6XX), one of the introductory paragraphs reads as follows:

'The Eritrean Relief Association, a British Registered Charity, inaugurated an extensive public health programme in 1981 as part of its attempt to provide a framework for longer term development in its programme area, where the population have been afflicted by war for over 20 years and for the last five years by a severe drought. In May 1982 a decision was taken in the Eritrean Public Health Programme (EPHP) that a considerable input of microscopes and microscopy skills would be required in order to change disease patterns in the areas of Eritrea where the programme was operative. Since this involved approximately 200 villages at the time, a project for purchase of this number of microscopes was drawn up. A large number of instruments were reviewed, and the design made initially by Dr John McArthur in 1932 was chosen as the most suitable. The first commercially available instrument appeared in 1933, since which time it has been refined and added to. EPHP took responsibility for redesigning it in plastic.'

During 1987, I was fortunate enough to be given a years' leave of absence from the University of Sheffield Medical School and to gain financial support from LEPRO, to work in Uzuakoli Leprosy Settlement, Uzuakoli, Imo State, Nigeria, where I had the opportunity to try out the plastic microscope for leprosy smears. It was undoubtedly of value in teaching. The medical officer in charge used it in lectures and I found it useful in teaching laboratory assistants. The resolution of bacilli in skin smears was excellent and the image generally brighter than with the standard bench microscope we were using.

There were however a few problems:

- 1 The springs which hold the slide to the stage have to be tight, but this means that it is difficult to make small movements with the fingers; changing fields tends to be jerky and coarse. In fact it is only too easy to move the slide so that the smear goes out of view. If the slide is highly positive, this does not matter so much, but with low bacteriological indexes, false results may occur.
 - 2 When using the oil immersion lens, because the slide is inverted, it is difficult to position the oil accurately and to ensure that the lens can be moved into position without dispersing it.
 - 3 With the standard slide, smears are positioned lengthways along the slide. When attempting to read a smear at one or other end, there is a tendency for the slide to slip off the platform.
- These are however relatively minor criticisms, all of which can be overcome. The low cost and simplicity of this instrument, together with its small size and portability, are all attractive features. It

would be interesting to know if it has indeed proved valuable in Eritrea or elsewhere. Have others found that it has advantages over currently available, low-price bench microscopes?²

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References

¹ McArthur Microscopes Ltd, Landbeach, Cambridge, Cambs., CB4 4ED, England.

² Cheesbrough M. Laboratory equipment—where are the tools to do the work? *Br Med J*, 1984, **288**: 1978–82.