Editorial

A paper by OLITZKI and GERSHON on Maintenance of Cytopathic Activity of *Mycobacterium Leprae* in Eagle's Medium Supplemented by Mycobacterial Extracts, in Israel J. Med. Sci. 1, (5), 1965.

Because of its great importance and interest to the whole world of leprosy, we draw attention to the Abstract of this paper published in this issue page 127. There has been quite a large amount of notice taken of it in the general press in which it is claimed that it is now possible to reproduce the bacillus of leprosy in the test tube. We have been fortunate in being able to publish at once a comment by Dr R. J. W. Rees of the National Institute of Medical Research, Mill Hill, London N.W.7, and this follows immediately.

COMMENTS ON THE PAPER BY *Olitzki* AND *Gershon* BY DR R. J. W. REES.

In spite of the importance of the successful transmission of leprosy to experimental animals, first demonstrated by Shepard, the full impact of modern scientific techniques cannot be applied to the study of leprosy until the causative organism is grown *in vitro*. Therefore every claim of the successful cultivation of *M.leprae* must be investigated with the greatest vigour, but also with the greatest care bearing in mind the multitude of past claims, none of which have withstood critical analysis nor have been substantiated by other workers. Olitzki and Gershon claim to have maintained the viability and the multiplication of *M.leprae* in a complex medium (Eagle's medium) used in tissue culture with the addition of an extract prepared from an unnamed strain of atypical *mycobacterium*. They tried the addition of a mycobacterium extract because many years previously Twort had conclusively demonstrated that another mycobacterium, Johne's bacillus, could only be grown *in vitro* with the addition of an extract of mycobacterium (*M.phlei*). The present claim is based on *M.leprae* obtained from only one patient inoculated into Eagle's medium plus the mycobacterial extract and maintained for 5 months. From this culture up to 3 subcultures were made which were maintained for periods of 1–3½ months. In all cultures increased opacity was noted after periods of 30 days, even with inocula diluted to 10^{-6}. In addition to these observations the author showed that suspensions of *M.leprae* isolated directly from a patient were toxic for, and produced death of, mouse monocytes in tissue culture and that suspensions of bacilli obtained from the cultures throughout all passages produced a similar toxic effect on the monocyte cultures. They concluded that the persisting cytotoxic effect was evidence of persisting viability of *M.leprae* in the primary culture and in the sub-cultures. Unfortunately the data presented, as a preliminary communication, did not include any direct counts on the number of acid-fast bacilli at the beginning and end of each culture period nor did it include a description of the stained bacilli recovered from the cultures and whether the bacilli appeared healthy. Although the suspension of *M.leprae* used in these experiments failed to grow on Loewenstein's medium no mention is made of checking this point with the acid-fast bacilli recovered from the cultures after several months. This latter check is of the greatest importance in order to exclude the possibility that the cultures were contaminated with a recognised and cultivable strain of mycobacterium.

Therefore with the limited data presented it is impossible to be sure that the authors have cultured *M.leprae*. However, a sufficient number of definitive tests are now available to identify *M.leprae* and it is essential that these should be applied to the bacilli isolated from the cultures of Olitzki and Gershon before making a definite claim of having cultured *M.leprae* The crucial tests include the behaviour of the organism in the foot pads of mice where it is now possible to make a direct bacteriological and pathological comparison with *M.leprae*, to exclude carefully the possibility that the organism grows in ordinary bacteriological media and to prepare a lepromin from the organisms

and test it in patients with lepromatous and tuberculoid type leprosy (a test already proposed by the authors). Furthermore it will be essential to apply the same cultural methods to suspensions of *M.leprae* isolated from other patients with leprosy. It is hoped that the authors will actively pursue their important studies and also undertake the essential tests suggested, and where necessary provide cultures of their organisms to others working in the field of leprosy research.

2 NOTICES:

We once more draw your attention to the following:

(a) The new subscription to *Leprosy Review* is **£2 per annum from 1st January, 1966.**

(b) The Editorial office of *Leprosy Review* will be at **6, Hillcrest Avenue, Pinner, Middlesex, England, from 1st April, 1966,** with Dr Ross Innes continuing as Editor.

(c) Mr Stanley Stein wishes to give subscribers of Leprosy Review a complimentary year's subscription to his publication. Send your request to the Editor, STAR, U.S. Public Health Service Hospital, Carville, Lousiana 70721, USA.