

## EDITORIAL

In this issue we republish an article from Vol. 16, No. 4 (Oct.-Dec. 1948) of the *International Journal of Leprosy* giving an account of two American Marines who apparently developed tuberculoid lesions on the site of tattooing on the forearm which was done in Sydney, Australia. These two cases are cited as evidence that leprosy can be spread by direct inoculation, and it is inevitable that they will be quoted in future textbooks as clinical evidence of one method of leprosy transmission.

How far does this claim and other accounts of leprosy due to direct inoculation stand up to intelligent scrutiny? The answer is that in no recorded case is there direct and infallible evidence of infection by inoculation.

The evidence is admirably summed up in Rogers and Muir, *Leprosy* (1946). The cases divide themselves into three categories; firstly, those which invite open disbelief; secondly, those whose lesions manifest themselves on a site of previous injury and, thirdly, where the evidence cannot be regarded as scientifically valid.

1. *Cases which invite open disbelief.* Rogers & Muir report the following cases: "a man who abraded his shoulder when carrying the coffin of a recently deceased ulcerated leper woman, liquid matter from which contaminated the wound and was not washed off until his return home. Some months after he felt unwell and developed leprosy of which he subsequently died." . . . "a European child in Borneo became infected after thrusting a thorn into himself immediately after a leper boy had thrust it into himself" . . . "a boy of six years had a negro leper playmate aged eight years. The latter introduced needles into nodules on his arms and legs, and his master, the younger boy, took the same needles directly out of the negro boy and forced them into his own flesh, with the result that soon after he began to get febrile attacks and pains in his limbs and one year later he was covered with a typical nodular leprotic eruption." . . . "a medical student who cut the tip of his left index finger and abraded his right hand at a post mortem on an advanced leper. This was followed *in a few days* by nodular thickening." (The italics are mine—Ed.)

The first and fourth stories are so fantastic that comment is unnecessary. In the cases of the two children we must ask what possible reliance can be placed on the evidence of minors who are obviously abnormal, or of their parents who are so criminally negligent about their children's playmates.

2. *Cases where the scientific evidence is not sufficiently valid.* Rogers & Muir quote the following case:—"strong evidence of the infection of the human subject by inoculation of leprosy-bacillus-containing material from another case has been brought forward by Lagoudaky (1936 and 1937) who has reported typical development of the disease in himself after inoculation into his own veins on three occasions of the blood of two Greek and one Egyptian leper respectively; the first small lepromata appeared after forty days."

There are two important points in connection with this case. One is that Dr. Lagoudaky worked for many years as a leprosy officer prior to this experiment. He may therefore have been infected at any point before the alleged inoculation. The second is that the writer examined Dr. Lagoudaky closely in the Spring of 1938 and came to the definite conclusion that the duration of his disease was very much longer than that suggested by the dates of his self inoculation. It must be laid down as an essential fact that no worker in contact with cases of leprosy is a suitable subject for experimental purposes.

Rogers & Muir, on page 86 have very properly stressed the fact that inoculations, particularly for vaccination, may cause an acute flare up, or lepra reaction, in cases where the previous signs of the disease have been cryptic. This and similar phenomena have undoubtedly accounted for a large number of recorded cases where leprosy has apparently broken out as a result of inoculation. Let us see then to what extent the evidence of these two marines is, as is stated, "strong evidence for the spread of infection by inoculation."

1. Both men were resident of the same town in civil life. No evidence is quoted as to whether this town was in an endemic area of leprosy. If it were the evidence is thereby qualified.

2. No evidence is given as to whether friends or relatives of these two patients had ever suffered from leprosy. Again the evidence cannot be judged without this information.

3. As the article points out, tattooing causes considerable

trauma. In leprosy the area of previous trauma is frequently the first manifestation of systemic leprosy. We require evidence that these men were not previously infected with leprosy. In any case, whatever the source of infection, the first visible source of manifestation would normally be in the traumatic area.

4. Leprosy in connection with tattoo marks is not an unknown phenomenon. The writer has seen a number of cases where tattooing has been done over a previously depigmented area in order to hide the disfigurement. If this applied to either of these cases, the marked coincidence of their both developing leprosy is thereby considerably reduced.

It will be noted that other cases quoted in the literature are of extremely doubtful significance. There is the often quoted case of the barber who developed leprosy of the forearm through stropping his razor on it after shaving a lepromatous case. It is obvious (a) that the evidence of such a man cannot be accepted and (b) that our whole knowledge of leprosy indicates that the first systemic lesion in this case appeared on an area of chronic trauma.

In 1935 the writer was enabled to examine a case of leprosy in Sydney, Australia. The story was as follows:—the victim had been bitten by a crocodile on the left arm and left leg in an effort to save a child. Two years afterwards inflamed areas appeared round the tooth bites, and these were positive for *lepra bacilli*. Now, in harmony with the ideas of inoculation, it could be claimed that the crocodile had suffered from leprotic pyorrhoëa, and it must be left to the reader to judge whether this would be likely or not. Whatever the final judgment the case of these two Marines is a remarkable coincidence. They are cases which deserve much more thorough, and much more careful investigation.