

referred to. Dr. Tunnicliffe and Dr. Rosenheim state in their letter contained in THE LANCET of August 13th that the dose of piperidine tartrate should be 10 gr. instead of 15 gr. as originally stated by them. This would mean, on my revised calculation, that 0.01 per cent. of the drug would be introduced into the circulation if the whole of the ten grains were at once absorbed, and, as I previously pointed out, the only experiments described by the authors in their original paper as to the solvent effect exerted by piperidine on sodium biurate are with 0.1 per cent. solutions, or with 10 times as much as could be introduced into the circulation by the dosage they now recommend. In their letter of August 13th Dr. Tunnicliffe and Dr. Rosenheim, however, state that they experimented with 0.01 per cent. of the drug, though no mention of such experiments was made in their original paper, and that they found that such a percentage of piperidine tartrate increased the solvent power of the standard solution for sodium biurate one and a half times. This is the very evidence that was wanted, and, if such be the case, I shall welcome the drug as a most useful one for the removal of gouty deposits. With regard to the question of uric acid in bullock's serum I must still remain sceptical as to the proof of its presence until it has been identified by the murexide test.

I am, Sirs, yours faithfully,
ARTHUR P. LUFF, M.D. Lond.

Weymouth-street, W., August 17th, 1898.

"THE MUTUAL RELATIONSHIP AND RELATIVE VALUE OF EXPERIMENTAL RESEARCH AND CLINICAL EXPERIENCE IN LARYNGOLOGY, RHINOLOGY, AND OTOTOLOGY."

To the Editors of THE LANCET.

SIRS,—As the result of a series of inoculation experiments upon guinea-pigs with portions of naso-pharyngeal adenoid tissue removed by operation 16.4 per cent. of the animals became tuberculous, and not 7 per cent., as stated by your reporter.—I am, Sirs, yours faithfully,

Manchester, August 15th, 1898.

WILLIAM MILLIGAN.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Influence of Plague Inoculation on other Diseases.—Malaria and Plague.—The Health of Calcutta and Bombay.—Sad Accident to one of the English Lady Nurses.—The Need of a Pasteur Institute in India.—The Special Medical Officers.

IN a recent report upon inoculation among the Khoja community in Bombay M. Haffkine endeavours to show not only the protective value of inoculation against the plague, but that it influences also favourably the resistance to certain other diseases. The figures of mortality published certainly show a lower mortality from all diseases among the inoculated than among the uninoculated. This, however, does not prove his contention. Those who were inoculated may be well assumed to be the more enlightened and intelligent, they did not run away from the city like many others have done, they were not sick or weakly, and they did not consist of the very old or the very young. One would naturally look for a less mortality among the inoculated where inoculation is carried out with a naturally selected portion of a community. A difference of 89.7 per cent. in deaths from plague in favour of the inoculated part of the community is probably above the real value of the measure. However, inoculation has been shown to have considerable protective influence. A difference of 73.3 per cent. in deaths from what have been returned as "other causes" in favour of the same part of the community is too great to be trusted. That the occurrence of plague amongst a population has been associated with a diminished mortality from other causes has been recorded in many places and suggests either that the conditions which favour plague may in some unknown way be favourable to the general health of the population or that plague itself may in some unknown

way affect the course of other diseases: It is an old observation that epidemics "clear the air," but the improvement or difference in mortality has never been anything approaching 73 per cent. I cannot help thinking that M. Haffkine has been trying to prove too much. It would probably have been more favourable to the cause of his prophylactic inoculation if he had limited his report to the confirmation of its plague-protecting influence.

There is one disease, at any rate, to which plague seems to have an antagonism. This is malaria. It is very suggestive that inoculation for plague should exert a favourable influence on the subject of malarial disease. Many persons who have periodically suffered from febrile attacks of malarial character have remained free from them after inoculation. The antagonism of one toxin to another, or to the development of certain forms of bacilli or other micro-organisms, is little known, but it is probably on these lines that some of the greatest achievements in experimental science have yet to be made known. This antagonism between plague and malaria may explain the practical escape of Calcutta and other places in the Lower Ganges from the present epidemic. I think it will be found that the most malarious districts have been free from plague or have suffered but slightly. It is certainly interesting to note the low general death-rate in Calcutta, Bombay, and Karachi while plague was existent in these cities and it is difficult to explain the sporadic character of the outbreak at Calcutta. Bombay at the present time has got an exceptionally low death-rate from fevers—equal to 50 per cent. below the normal. The deaths from plague exactly make up for the deficiency. The following figures show the gradual increase in the number of deaths from plague which is taking place and point to the probability of a third outbreak in Bombay. The general death-rate is about 33 per 1000.

Table showing the Number of Deaths from Plague.

For week ending May 31st ...	84	For week ending June 28th ...	53
" " June 7th ...	44	" " July 5th ...	38
" " " 14th ...	26	" " " 12th ...	53
" " " 21st ...	15	" " " 19th ...	63

An increase of plague has also occurred at Hubli, Bandra, and Thana, and in the Nizam's dominions.

Miss Harris, one of the lady nurses who were sent out by the Secretary of State for India on plague duty, has unfortunately been bitten by her own dog. The animal was ill and presented many suspicious symptoms, especially as it had been bitten by a stray dog a short time previously. More than ordinary caution was obviously indicated, but, unfortunately, in endeavouring to secure it Miss Harris was severely bitten on the hand. On this being reported she was advised to proceed by the next day's mail to Paris. The dog died from unmistakeable rabies the following day, but it must be ten days before Sister Harris can obtain the benefit of treatment at the Pasteur Institute. This is one more example of the necessity for the establishment of such an institute in India. Considering how prevalent rabies is, the difficulty of stamping it out in consequence of the wild animals, and the large numbers of half-starved pariah dogs everywhere continually scavenging about, the danger of hydrophobia is constantly present. The establishment of a Pasteur Institute has been talked about for five years and matters have proceeded as far as collecting over 77,000 rupees towards it, but what between the inadequacy of private support and procrastination on the part of the Government the project is still far from completion. The Supreme Government undertook a long time ago to provide the officer who would direct the treatment of the patients and the management of the laboratories. The question, however, is "still under consideration." It is not only for the treatment of hydrophobia that this scheme is required, there are many other ill-understood diseases which demand investigation. As natives of all classes have availed themselves of the benefits of inoculation against plague and cholera the serum treatment in general is hardly likely to receive further opposition.

Of the special medical officers sent out by the Secretary of State for India practically very few, except those of the last batch, remain. The authorities are now inquiring who will continue to serve with an increase of salary of 100 rupees a month. These appointments certainly give opportunities of seeing something of India, and the salary