

fight, and have now to consider the future. To every thinking man it must be obvious that this struggle is but the prelude to a far greater one—that in which efforts will be made to force us to become the puppets of a State Medical Service. This will most certainly take place in five years, probably in three. Are we to enter that fight as we entered this, unprepared, no war chest, with disordered ranks and disloyal captains, or shall we be found ready, shoulder to shoulder, with leaders who will lead and not simply consent to be pushed?

This is a question beside which the present one sinks into absolute insignificance. First of all, let there be no more silly talk of "blacklegs"; let an act of oblivion cover the past. Next, let us be loyal to the Association, on the panel or off the panel, remembering that it is our duty to strengthen it by cohesion and subordination of personal interests, not to weaken it by internal dissensions. And, above all, let us see to it that we have a Council composed, not simply of men of high professional standing, but men of business ability, men who have been proved to possess the gift of organization and to really represent our best interests. The *débâcle* of to-day must lead to the victory of to-morrow, and "Unity" must be the watchword.—I am, etc.,

London, S.W., Jan. 5th. J. H. MEERS, M.R.C.S., L.R.C.P.

THE LIFE-HISTORY OF SPIROCHAETES.

SIR,—In the issue for December 14th E. H. Ross, in an article on An Intracellular Parasite Developing into Spirochaetes, writes in reference to the spirochaete of syphilis: "Intracellular stages of the various other spirochaetes have been described by many authorities . . . but the relations between the various bodies described above and the *Spirochaeta pallida* were not hitherto demonstrated."

In an article on the *Spirochaeta pallida* published in the *Glasgow Medical Journal* for March, 1906, I wrote in referring to Siegel's bodies: "In my opinion, the *Spirochaeta pallida* and the *Cytorrhycetes luis* are different stages in the life-history of the same parasite." Again, in the BRITISH MEDICAL JOURNAL for May, 1906, in an article on the *Spirochaeta pallida* and its variations, a number of figures and photomicrographs are shown to demonstrate the intracellular parasite. The whole article is a plea for the view that the *Spirochaeta pallida* is only one stage in the life-cycle of the infective agent in syphilis.

In 1907 a demonstration of the variations of the *S. pallida* was given at the Medico-Chirurgical Society, and the paper appears in vol. xc of the *Transactions*. On that occasion I stated that it was my intention to show part, at least, of the life-cycle of the parasite. The intracellular parasite was again illustrated. Similar small bodies to those found in syphilis were shown under the oil-immersion lens as being associated with the *Spirochaeta pertenuis*. These few facts may prove that the intracellular bodies were in 1906 already recognized as being associated with the *Spirochaeta pallida* in syphilis.—I am, etc.,

Glasgow, Jan. 2.

ALEX. MACLENNAN.

BOVINE AND HUMAN TUBERCULOSIS.

SIR,—The leading article on the Italian investigation on this subject in the BRITISH MEDICAL JOURNAL of November 23rd, 1912, p. 1485, is full of interest. Professor Gosio traverses all the findings of our Royal Commission. He endeavours to upset what we have come to regard as settled theories. His principal conclusion is that where there is much tuberculosis in animals there is little tuberculosis in man, and that where there is much tuberculosis in man there is little or no tuberculosis in animals. It would tend to a clearer understanding if in discussing this subject we could distinguish between bovine and human tuberculosis. It has long been agreed that these two conditions are due to different types of bacilli. This was very clearly set out in the excellent paper in the JOURNAL of November 23rd, 1912, by Dr. John Fraser. Our present system of nomenclature is clumsy and leads to confusion.

Professor Santoliquido affirms "that in the North of

Italy, where is grave diffusion of bovine tuberculosis and where milk is largely used, peritoneal tuberculosis is not proportionately increased, while in the Midlands, where little milk is drunk, and where often bovine tuberculosis is unknown, peritoneal tuberculosis is high." Italy must be peculiar in this respect, for we are told that in regions like Australia and the Sandwich Islands the infection of the inhabitants has followed the introduction of tuberculous cattle. The poorer classes in China do not suffer from tuberculosis, whereas among the dominant Tartar class (milk and meat consumers) the disease is prevalent. In South America, where the use of milk is almost unknown, or used only after being boiled, the natives are not affected. Tuberculosis is unknown in Morocco, where there are no European dairy cows. In Guernsey the proportion of cattle affected with tuberculosis is about $\frac{1}{2}$ per cent., and Dr. Bishop, the medical officer of health, says that "the forms of human tuberculosis are consequently exceedingly rare." In England and Wales, in 1909, 10,000 children under the age of 5 died from tuberculosis (other than pulmonary tuberculosis), and it is estimated that 70 per cent. of our dairy cattle are affected with tuberculosis! During the last forty-five years the returns show a reduction in the death-rate from all forms of tuberculosis of 27.9 per cent. in Great Britain, the reduction in deaths from phthisis reached 66 per cent., while the corresponding reduction from tabes mesenterica only reached 3 per cent.

Adami says that "impure and infected milk is the essential factor in the production of abdominal tuberculosis in children, if mesenteric tuberculosis were in the main due to infection with human tubercle bacilli, then with the lessening of tuberculosis in adults there ought to be a corresponding diminution in the number of cases of tabes mesenterica in children, and this has not occurred." Having regard to these facts and opinions, we can scarcely be expected to agree with Professor Santoliquido's conclusion "that the fatal march of this contagious disease will not be stopped, even for a moment, simply by rendering meat and milk free from infection."

I would especially draw Professor Santoliquido's attention to the experiments of the British Royal Commission with the anthropoid apes. When these animals were fed with milk from a tuberculous cow they developed general progressive tuberculosis.

We may await with equanimity the publication of the full reports of the Edinburgh investigation. The foretaste Mr. Stiles has given us is comforting—"that a large proportion of surgical tuberculosis, at any rate in children, was of bovine origin."—I am, etc.,

Beverley, Dec. 2nd, 1912.

T. READMAN.

THE MADNESS OF KINGS.

SIR,—I speak under correction, but I submit that there is not a tittle of evidence that Nebuchadnezzar suffered from lycanthropy, or kynanthropy, as Aetius calls it. Practically the sole authority we have on this disease is Oribasius, for though it is described in detail by Aetius, Paulus Aegineta, and others, they took their descriptions word for word from Oribasius, either directly or through Marcellus Sidetes, who transcribes him literally. The description given by Oribasius is detailed and definite, and leaves little room for mistakes in diagnosis. "Those affected by this malady go out of their houses in the night time, and in everything imitate wolves, wandering about the sepulchres of the dead till daybreak. You may know them by these symptoms: their countenances are pale, their eyes heavy, hollow, dry, without the least moisture of a tear; their tongues exceedingly parched and dry; no spittle in the mouth; extreme thirst; their legs, from the falls and bruises among stones and thorns, are full of incurable sores." Aetius and Paulus Aegineta say they open the tombs of the dead, but neither of them seems to have seen a case, and both Oribasius and Actuarius say "they run about among the tombs." The demoniac of the Gospels, who seems to have been a lycanthropist, "had his dwelling among the tombs" (Mark v, 3), "abode in the tombs" (Luke viii, 27). No such habit and no such symptoms are recorded of Nebuchadnezzar. He did not voluntarily go out of his house in the night time: he was "driven from men." He