

PROFESSOR KOCH AND THE RINDERPEST IN AFRICA.

FURTHER EXPERIMENTS ON THE PRODUCTION OF IMMUNITY.
PROFESSOR KOCH has presented an additional report to the Secretary of the Agricultural Department of Cape Colony. This report is as follows:

IMMUNITY PRODUCED BY BLOOD SERUM.

I have the honour to report herewith to you on several very important facts resulting from my investigations at the rinderpest experimental station. In my last report I was already in a position to inform you that the blood serum of cattle which have recovered from rinderpest had a certain immunising effect upon healthy stock when inoculated with it. Its protective properties, however, are not very great, for 100 c.cm. of such serum are required to protect an animal against an inoculation with a small dose of rinderpest blood. This immunity is in its nature merely a "passive" one, and will only last during a short period. For protective inoculation on a large scale such serum is not applicable, but I succeeded in immunising within a fortnight several animals by means of a mixture of serum and virulent rinderpest blood to such a degree that they were enabled to withstand an injection of 20 c.cm. of rinderpest blood, a ten-thousandth part of which is a fatal dose. From this fact I judge that the immunity of these animals is of a much higher degree, and I believe it is an active immunity equal to that of a beast which has contracted rinderpest and has then recovered. It is particularly important to know that only 20 c.cm. of such serum are required to immunise one animal, and 1 litre—nearly one and three-quarters of an imperial pint—suffices for fifty head of cattle. My further investigations concerning this *modus operandi* will aim at finding: whether this immunity is obtainable in a still shorter period, whether a still smaller dose of serum will suffice, and if it may be obtained with but one injection.

IMMUNITY PRODUCED BY BILE.

A second and equally important fact is that one is able to render immune healthy cattle with the bile of such as have succumbed to rinderpest. In this case a single hypodermic injection of 10 c.cm. is sufficient. This immunity sets in on the tenth day at the latest, and is to such an extent that even four weeks afterwards 40 c.cm. of rinderpest blood could be injected without any injurious effect. I therefore conclude that the immunity produced in such a manner is of an "active" nature. The local result of an injection is merely a hard somewhat painful swelling of the size of a man's fist, and which gradually disappears in the course of a few weeks, provided, however, that the bile is not in a state of decomposition, as is not uncommon when an animal suffers from rinderpest. Under such circumstances an abscess may form, which, however, does not seem to be detrimental to the process of immunisation. Both the above-mentioned facts convince me that rinderpest can be eradicated with but little difficulty, and within a comparatively short time by putting these methods into practice. The method of immunising cattle with serum may be employed in order to separate from infected areas those tracts of country which are still free from the scourge, by means of forming a broad belt between them in which all the cattle are inoculated with the vaccine. The protective properties of the bile will be of inestimable service.

PRACTICAL APPLICATION OF THE METHOD.

In infected parts nearly every case of rinderpest supplies a greater or lesser quantity of vaccine for those animals which are still healthy. I cannot but urge upon you the importance of bringing this method immediately to the notice of those cattle owners whose animals are suffering from or threatened by the disease, for I am sure thousands of cattle may daily be saved by its application. The *modus operandi* is very simple in both these methods, but it will nevertheless be desirable to teach as early as possible veterinary surgeons and other persons fitted for such work. I am willing to give a course of instruction at the experimental station in Kimberley. It may further be advisable at once to take into serious consideration the establishment, in other parts of the country, of branch stations of the central laboratory in Kimberley, to furnish

them with the necessary equipment, and to appoint suitable persons to take charge of them. With reference to your telegram, dated February 6th, I beg to add I do not now consider it essential to experiment on camels, as our experiments performed on cattle have been so favourable.

INTERNATIONAL MEDICAL CONGRESS.

THE preparations for the Congress at Moscow are now in an advanced state, and the programme of work in several of the Sections is nearly complete. Communications may, however, be announced as late as June 1st next.

The Secretary-General, Professor W. K. Roth, announces that the English Consul, Mr. Medhurst, is in communication with the principal members of the English colony residing in Moscow with a view to the entertaining of guests at the Congress; further, that there will be ample hotel and lodging accommodation at reasonable rates. It is hoped that the members of the Congress will be received at a Court reception by the Czar, and arrangements are being made for *fêtes* at St. Petersburg after the termination of the meeting at Moscow.

RAILWAY ARRANGEMENTS.

The cost of railway tickets will be approximately as follows: A circular ticket from London, *via* Paris, Strassburg, Munich, Vienna, Oderburg, and Granica (frontier station for Moscow), and home *via* Eydtkuhnen (frontier station for St. Petersburg), Königsberg, Berlin, Cologne, Brussels, Calais, and London, available for 60 days, first class, £17 5s.; second class, £12 4s. 6d.; 56 lbs. of baggage free to Avricourt on the out journey, and from Blaudain on the home journey; for the rest of the journey all baggage must be paid for. The tickets for the Russian portion of the journey must be taken at the frontier stations, the cost being as follows: From Granica to Moscow, first class, 38 roubles 43 k.; second class, 24 roubles 68 k. From Moscow to St. Petersburg, first class, 20 roubles 76 k.; second class, 12 roubles 21 k. From St. Petersburg to Eydtkuhnen, first class, 17 roubles 90 k.; second class, 10 roubles 74 k. No return tickets are issued on the Russian railways. Taking the *rouble* at 2s. 3d., the approximate cost of the railway travelling will thus be, first class, £26; second class, £18, and it will be necessary to give eight days' notice to Messrs. Cook in order to obtain the circular tickets. The Secretary-General holds out some hope of the fares on the Russian railways being considerably reduced.

All visitors will need to be provided with passports. Forms of inscription as members of the Congress may be obtained from Mr. Makins, 47, Charles Street, Berkeley Square, W.

LITERARY NOTES.

WE are requested by the Rebman Publishing Company to announce that owing to a fire which recently broke out on the premises of their binders, a large consignment of the issue for 1897 of the *American Year-book of Medicine and Surgery*, edited by Dr. George M. Gould, of Philadelphia, has been completely destroyed. In consequence of this accident they regret that they will be unable to deliver copies to subscribers for about three weeks.

Messrs. Blackwood announce a work by Dr. Louis Robinson, under the title of *Wild Traits in Tame Animals*. It is described as a series of "familiar studies in evolution."

We have received another volume of the *Pathological Atlas*, edited by Professor Bollinger, and published by Lehmann, of Munich, to which we referred recently. This volume deals with diseases of the urinary and sexual organs, of the nervous system, and the bones. The coloured illustrations are in most instances excellent, and the price (12 marks) must be regarded as extremely moderate.

During 1896 the number of students who made use of the Library of the Medical Faculty of Paris was 165,230, and the number of volumes given out was 260,000. There were added to the library 6,491 books and pamphlets, theses from provincial and foreign faculties, and transactions of societies, French and foreign, besides donations. Under the last category the receipts were very few. The library suffers greatly from financial depression, not having money enough (according to the *Gazette des Hôpitaux*) to complete its collection of scientific works, or even to have its pamphlets and periodicals bound.

M. Pozzi, the eminent French gynaecologist, has undertaken the editorship of a new periodical, the *Revue de Gynécologie et de Chirurgie Abdominale*. It is to appear every two months, and the January-February number has already been published.