

## SCIENTIFIC RESEARCH IN THE SUDAN.

IT is hardly possible within the short compass of this review to give more than the briefest account of the contents of the very interesting volume referred to below.<sup>1</sup> One of the most important subjects from the point of view of the maintenance of stock and transport is animal trypanosomiasis. Thus, in camels in the French Sudan we have the disease known as Mbori; in dromedaries of the Upper Niger, le Tabaga; in Algerian dromedaries, El debab. A camel disease is also noted in this report at El Obeid, Kordofan, and another occurs in the Sinai peninsula close to the Mediterranean. The elucidation of the problem

also exist, but researches on this point are at present not far advanced.

Another disease not of insignificance is spirochætosis of domestic fowls. It exists in poultry, geese, and guinea-fowl, and probably will be found common in wild birds, as ten years ago the present writer encountered spirochætæ in birds in West Africa. The disease is, so far as is known, transmitted by ticks, of the genus *Argas*, which abound in the hen-runs. An important peculiarity of the hen spirochæte is the abundance of intracorpuseular forms of these parasites, a condition which does not prevail in other spirochæte diseases.



Dinkas of the White Nile, showing stork-like attitude. From the "Third Report of the Wellcome Research Laboratories at the Gordon Memorial College, Khartoum."

of the specific character of these trypanosomes and the mode of their transmission is not an easy matter. Trypanosome diseases are by no means confined to camels, but we find them also existing in horses, mules, and donkeys. The losses from these diseases appear to be considerable, but at present little can be done in the way of prophylaxis.

The report indicates that investigation into these various forms is being prosecuted on all sides. Different kinds of piropiasmosis (red-water) of cattle

To turn to human diseases, it is uncertain at present whether sleeping sickness exists in the Bahr-el-Ghazal, but unfortunately there is a possibility, if not probability, of it being introduced from the Congo Free State. A useful suggestion is that chiefs should be paid for keeping the watering places near their villages free from trees and scrub, the haunts of *Glossina palpalis*.

Kala-azar, an extremely fatal disease, occurs in the vicinity of Abyssinia. The disease also exists in the Kassala province. A disease known as "Egyptian cirrhosis of spleen and liver," which closely resembles kala-azar, but the nature of which is unknown, is also recorded.

<sup>1</sup> Third Report of the Wellcome Research Laboratories at the Gordon Memorial College, Khartoum. By Andrew Balfour. Pp. 477. (London: Baillière, Tindall and Cox, for the Department of Education, Sudan Government, Khartoum, 1908.) Price 21s. net.

Three interesting sections then follow on protozoal investigations, largely carried out on the floating laboratory; on the helminthes collected in the Sudan; and on the reptiles and poisonous snakes. In the latter we note that the author speaks of "saliva" in connection with the fluid ejected by the spitting cobra (*Naja nigricollis*). The writer has often made these cobras spit on to the glass roof of their cage, but never could convince himself that the secretion came from the fangs. The expectoration, on drying, gives a white powder, whereas snake-venom is usually a pale yellow. The report by the economic entomologist is especially interesting, recording as it does the misdeeds of such pests as the cigarette beetle, that eats cayenne pepper; the white ants, that eat leather camel-bags—though they will not touch green Willesden canvas, "Solignum" also appearing to be an absolute preventive against them—the teredo, that attacks the timber in Port Sudan; the horn beetle, the enemy of the sportsman and trophy hunter; the clothes-beetle, the weevils, the cotton boll-worms, and the locusts, veritable plagues of Egypt.

A complete list of Sudanese mosquitoes, including several new species, is contributed by Theobald.

In an article on the healing art as practised by the Dervishes, the following effective method of amputation is described:—"The limb is stretched out of an opening in the wall or out of a window, and it severed with one stroke of a sharp sword, the stump being then plunged into boiling oil to stop the bleeding." The native belief that the wearing of high pattens is a protection against guinea-worm should be noted by those investigating the mode of entry of this crippling parasite. The physical characters of the Nilotic Negroid tribes, based on the work of the late Dr. Pirrie, forms a fascinating section, and "the call of Africa" is insistent on every page.

The work concludes with chemical investigations into the food-stuffs and very interesting work on the gums. We have said enough, perhaps, to give a slight idea of the interest and value of this report, not only to the scientific, but also to the general reader, and we heartily congratulate the director and his collaborators on the result. It is a magnificent volume, profusely illustrated, but it is just to this magnificence that we venture to raise objection. Its price and bulk will deter many from purchasing it to whom it would be of value. We think it might be possible to issue the work in a number of sections, medical, entomological, ethnological, &c., otherwise we are afraid that the next volume may be twice as bulky and twice as expensive.

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#### THE DARWIN COMMEMORATION AT CAMBRIDGE.

THE celebrations in commemoration of the centenary of the birth of Charles Darwin and of the fiftieth anniversary of the publication of "The Origin of Species" are being held at Cambridge this week. The programme commenced on Tuesday, June 22, with a reception of delegates and other invited guests by the Chancellor of the University, Lord Rayleigh, O.M., F.R.S., in the Fitzwilliam Museum. By the kind permission of the master and fellows of Peterhouse, the college gardens were accessible from the museum. On the following day, Wednesday, there was a presentation of addresses by delegates of universities, colleges, academies, and learned societies in the Senate House. After an address by the Chancellor, and the presentation of delegates and addresses, there were a few short speeches. During the afternoon visits were made to the various colleges,

and these were followed by a garden party, given by the master and fellows of Christ's College, in the college grounds. In the evening a banquet was held in the new examination hall; after which the master and fellows of Pembroke College gave an at home in the college hall and gardens. To-day (Thursday), the concluding day of the celebration, honorary degrees are to be conferred upon some of the delegates in the Senate House; the Rede lecture is to be delivered by Sir Archibald Geikie, president of the Royal Society, upon "Darwin as Geologist"; and a garden party is to be given at Trinity College by members of the Darwin family.

The delegates upon each of whom the degree of Doctor of Science *honoris causa* is to be conferred are:—Prince Roland Bonaparte, member of the Paris Academy of Sciences; Edouard van Beneden, professor of zoology at Liège; Geheimrat Hofrat Bütschli, professor of zoology and palæontology at Heidelberg; Robert Chodat, professor of botany at Geneva; Francis Darwin, F.R.S., honorary fellow of Christ's College, and formerly reader in botany; Karl F. Goebel, professor of botany at Munich; Ludwig von Graff, professor of zoology and comparative anatomy at the University of Graz, and president-elect of the International Zoological Congress which meets at Graz next year; Richard Hertwig, professor of zoology and comparative anatomy at Munich; Harold Höfding, professor of philosophy at Copenhagen; Jacques Loeb, professor of physiology in the University of California; Edmond Perrier, a member of the Institute of France, distinguished by his able organisation of the Natural History Museum of Paris, over which he presides; Gustav Albert Schwalbe, professor of anatomy at Strassburg; Hermann Graf zu Solms-Laubach, professor of botany at Strassburg; Clement Timiriazeff, professor of botany in Moscow; Frantisek Vejdovsky, professor of zoology in the Bohemian University of Prague; Max Verworn, professor of physiology at Göttingen; Hermann Vöchting, professor of botany at Tübingen; Hugo de Vries, professor of botany at Amsterdam; Charles Doolittle Walcott, secretary of the Smithsonian Institution at Washington; Edmund Beecher Wilson, professor of zoology in Columbia University, New York; and Charles René Zeiller, professor of palæobotany in the Ecole des Mines, Paris.

During the celebration there was an exhibition of portraits, books, and other objects of interest in connection with Darwin, in the old library of Christ's College. The exhibition will remain open until the end of this week. All the many objects exhibited are directly connected with Charles Darwin or his ancestors. In the outer room are all the important portraits made of Charles Darwin during the time he lived. Of these mention should be made of the painting by Sir W. B. Richmond, K.C.B., which shows Darwin in his LL.D. gown, lent by the university; the well-known portrait by the Hon. John Collier, showing Darwin in his long black cloak and holding his hat in his hand, lent by the Linnean Society of London; and the well-known profile by W. W. Oules, a replica of which hangs in Christ's College Hall, lent by W. E. Darwin. The larger portraits also include two of Mrs. Charles Darwin, by C. Fairfax Murray; one of Robert Waring Darwin, father of the naturalist; and others of Darwin's ancestors, amongst them the painting of his grandfather, Erasmus Darwin, by J. Wright, of Derby. Two crayon sketches of Darwin in middle life, by S. Laurence; water-colour drawings of Down, and of various scenes connected with the voyage of H.M.S. *Beagle*, are also represented here, together with the instruments used by Darwin on board the *Beagle*, and