in Cape Colony were lighter in colour and far less ugly than the Hottentots farther to the north-west or inland, and their culture was higher, as though they had preserved more of the Nilotic or Hamitic intermixture.

The pygmies of the Nile Delta, of prehistoric Egypt, seem certainly to have been Negroid, but more like the Asiatic Negroes, and presenting few resemblances to the Bushmen. The steatopygy of Bushmen and Hottentots developed into a local exaggeration (chiefly in the women), but occasionally appears in the Congo pygmies, the East African Bantu, the Nilotic Negroes, and even the Whiteman races of the Mediterranean.

I cannot quite share Dr. Theal's theories concerning the origin of the Bantu languages, but as I have already exceeded the space allotted to me, I must deal with my points of difference elsewhere. On the other hand, I am obstinately in agreement with his views on the subject of the earlier stone buildings of South-east Africa, of the Zimbabwe type; they were never (the earlier and more elaborate) built by Negroes, Bantu or Hottentot; they were—so far as we can be certain on any subject that has not at present conclusive proof—built by a non-Negro people, possibly the Phœnicians coming from some base in southern Arabia. The secondary and much later work was very likely done by Arab gold-seekers prior to the Islamic period. All that the more intelligent Bantu peoples, such as the Karaña or their allies, did on the verge of their entry into the history of South Africa was to carry on very clumsily surface gold-mining and the use of stone for building rough, low walls and circular huts.

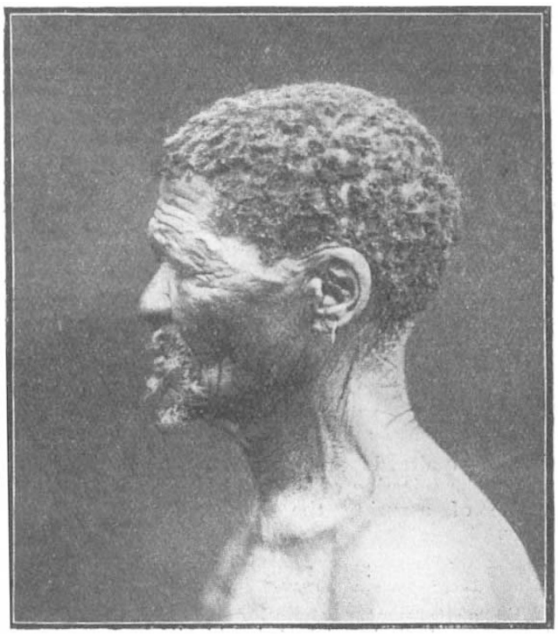

FIG. 5.—Portrait of a Cape Bushman of the orthognathic type.

The accompanying reproductions illustrate my own as well as Dr. Theal's theories. The first is copied from Péringuey and Shrubsall's "Stone Age in South Africa"; the second was given me by Prof. Flinders Petrie; the third by Mr. Leo Weinthal; the fourth is from a photo by Dr. Leonhard Schultz; and the fifth is from the collection of the Royal Anthropological Institute.

H. H. JOHNSTON.

## LT.-COL. B. F. E. KEELING.

BY the death of Lt.-Col. Keeling Surveyor-General of Egypt, that country has lost one of its ablest officials. Lt.-Col. Keeling was born in 1880, and educated at Bradford Grammar School and at Trinity College, Cambridge, where he took firsts in the Natural Sciences and Mechanical Science (Engineering) Triposes. On leaving Cambridge he went to the Royal Arsenal, Woolwich, and then to the National Physical Laboratory, where he worked especially on metrology.

In 1904 Keeling joined the Egyptian Survey Department, where he took charge of the major triangulation, and in the next year of the Helwan Observatory also. Here he designed and built the comparator houses for the comparison of the standards of the Survey, and organised the geodetic survey of Egypt, in connection with which a gravity survey of the Nile Valley and neighbouring regions was undertaken. He also started precise levelling in Egypt, and under his direction a network of bench-marks has been formed in the Delta of the greatest value to irrigation. An investigation into the subsoil water-level of the Nile Valley, and its effect on the cotton crop, came also under his direction, while his work on standards of length led to the formation of the Weights and Measures Office under his direction.

In meteorology Keeling introduced research on the upper air at Helwan Observatory, where kites and pilot balloons were regularly used, and in 1908 he made a journey to the Upper Nile for the study of the upper-air currents during the rainy season. In 1913 the more scientific branches of the work carried out in the Survey Department were amalgamated to form the Physical Service, with Keeling as director, and in 1915 this service was transferred to the Ministry of Public Works as a separate Department.

In December, 1914, Keeling left Egypt in order to take up military duties, and received a commission in the Royal Engineers. He was at first attached to the Ordnance Survey, and placed in charge of the map publication department; but it was his keen desire to serve at the front, and in February, 1916, he joined a Field Survey company in France. He was wounded in the autumn of 1916, and did not return to France until 1917, when he commanded first the Depôt Field Survey Company, and then the 3rd Field Survey Battalion; he was promoted to the rank of lieutenant-colonel. The Survey battalions were now organ-

ising new methods of ranging by sound and observation, and by his force of character Keeling was particularly successful in gaining the confidence of the artillery in these methods, and it would be difficult to over-estimate the effect on many operations which he thus exercised. He was present at the Somme battle, the attack on Cambrai, the great German attack in 1918, and the subsequent British advance.

Keeling returned to Egypt in April, 1919, as head of the Survey of Egypt, having also been appointed chairman of the newly formed Board of Cotton Research, and with his accustomed zeal had already started to develop geodetic and other lines of work in the Department. He was a man of unbounded energy, who combined foresight and skill in administration with a sound scientific training, and his loss is a serious one to Egypt. He had only recently been married, and the sympathies of all are with his widow.

H. G. LYONS.

## NOTES.

A CONFERENCE of delegates representing the Mediterranean nations is about to meet at Madrid to organise an international scheme of fishery investigations and to set up a central office for the co-ordination of the results and their publication in French, Spanish, Italian, and English. Four exploring ships are to be at the disposal of the office—the *Hirondelle II.* belonging to the Prince of Monaco, a specially built Italian ship, and two other vessels provided by France and Spain. In the meantime, while the full scheme is being elaborated, the Italian Government is beginning investigations in the Dardanelles. In the main, the object of the researches will be the development of the sea-fishing industries, and the results primarily sought will relate to the life-histories of edible fishes. Hydrographic work will also be carried out. Several big expeditions have made investigations of this nature in the past, but there is still much to be discovered, and sustained research is, of course, imperative in the study of variability of the productivity of the fisheries.

WE note with great regret that Mr. S. D. Chalmers died on Friday, November 7. Born at Wallsend, near Newcastle, New South Wales, Mr. Chalmers had a brilliant career at the University of Sydney, whence a travelling fellowship took him to Cambridge. There he graduated as thirteenth Wrangler in a very strong year. After holding lecturerships in mathematics at Owens College, Manchester, and at the Royal Naval College, Greenwich, he became the first head of the newly organised department of technical optics at the Northampton Polytechnic Institute at Clerkenwell, a post which he held until his premature death at the age of forty-two. Since 1903 Mr. Chalmers's work had been entirely devoted to optics, and his activities were largely identified with the Optical Society of London, of which he was for a time honorary secretary, and in 1909–10 president; and also with the two Optical Conventions of 1905 and 1912. His published work, his teaching, and his personal advice and example have done much for the optical industry of this country, and it is greatly to be regretted that one of the ablest workers in this field has been lost to us at a time when that industry needs all its strength. During the war Mr. Chalmers not only assisted the industry by personal advice and help, and by a large amount of responsible testing work, but he also organised and supervised a special training workshop in which girls were trained to become skilled grinders and polishers of lenses. There can be no doubt that his untimely death is to be ascribed to the excessive strain of these activities, followed by the further strain arising from a combination of a pressure of many students and an inadequacy of staff.

ALL those interested in the afforestation question in this country, and cognisant of the vital economic and social problems bound up with it, will have been relieved at the answer given by Mr. Bonar Law, in reply to Sir Philip Magnus, on the subject of the Commissioners to be appointed under the Forestry Act. It will be remembered that the Forestry Bill was passed by the House of Commons in August last, having been previously accepted by the House of Lords. The Act provided for the appointment of a Central Forestry Commission, consisting of eight Commissioners who should be responsible for the forest policy in Great Britain and Ireland, and anxiety as to the non-appointment of the Commissioners was being felt. The names of the eight Commissioners were announced in last week's NATURE. The member of the Commission who has had a technical and scientific forestry training is Mr. R. L. Robinson, the Cabinet having accepted the principle that at least one Commissioner should possess a scientific training in forestry. We should like to have seen a representative of the purely scientific side of forestry upon the Commission, and also a second expert member possessing a practical and wide knowledge of forestry conditions throughout the British Empire and other parts of the world outside western continental Europe. The advice such a member could tender on many points of vital importance in connection with the afforesting of the great waste areas in this country would prove invaluable. This is a weak spot in the Commission, a disability which, it may be hoped, will be quickly realised by such a broad-minded, energetic, and capable administrator as the chairman, Lord Lovat, has already proved himself to be. In other respects the selection of the Commissioners gives every promise of assuring the fulfilment of the desired results.

WE much regret to record the death, on November 14, at eighty years of age, of Dr. John Aitken, F.R.S., a frequent contributor to our correspondence columns, and distinguished for his lifelong researches on the nuclei of cloudy condensation and related subjects of meteorological physics.

THE ninety-fourth course of juvenile lectures founded by Faraday at the Royal Institution will be delivered this Christmas by Prof. W. H. Bragg on "The World of Sound."

ANNOUNCEMENT is made in the *Times* that Prof. M. Planck, Berlin University, and Prof. H. Stark, Griefswald University, have been respectively awarded the 1918 and 1919 Nobel prizes for physics, and Prof. F. Haber, Berlin University, the 1918 Nobel prize for chemistry.

PROF. WM. BERRYMAN SCOTT, president of the American Philosophical Society, sends us the following congratulatory message from Princeton:—"I am very glad to congratulate you, officially, upon the completion of the first half-century of NATURE'S career, to express the cordial wish and hope that that career may long continue in ever-increasing honour and usefulness, and to give some appreciation of the very great services which the journal has rendered to