

the story of the company with no less authority than that of the ten years of Imperial government, in which he himself took part, being attached to the political department of the colony. He treats in full detail of the events of the early years of the century, the occupations of Bauchi, Bornu, Kano, and Sokoto, which were carried out in 1902-1903, followed by the organisation of provinces. The difficulties of establishing a general and equitable system of taxation in place of a local and inequitable native system are fully brought out, and the genius of Sir F. Lugard in attacking this and other problems is clearly seen and acknowledged. Each other important department of administration has its chapter. Introductory to the whole is the survey of the history, such as it is, of the country from the earliest known times, and a chapter descriptive of the country and its people enables the reader to appreciate the problems faced by the administration, especially in respect of dealings with the native peoples. The Hausas and the Fulanis or Fulahs, and particularly the latter, are of especial interest. From this descriptive chapter it appears, as is probably not generally realised, that the Northern Nigerian Government has had to deal, not with uncivilised natives alone, but with peoples who possess or at least claim a certain degree of civilisation and systems of government which already, in some cases, recognise the principles of vassalage and slavery, and are not easily tolerant of a suzerain power. Capt. Orr's volume is illustrated by simple but sufficient maps, save that no attempt is made towards the portrayal of relief or other physical characteristics. There is ground for regret here, especially when it is remembered what admirable geographical work so many Nigerian Government officials have found time to accomplish amid all their strenuous duties.

"The Story of the Zulus" is a rather sombre story, though even by strict historical methods it is not shorn of all the romance attached to it through the medium of fiction. Mr. Gibson has been a magistrate in Zululand, and was brought up in Natal at a time when Zulu opposition to white settlement was active. In this new edition he has been able to make use of new material discovered since the first issue, and the matter of the book has in consequence been not only revised but extended. Its claim to recognition as an authoritative work is thus strengthened.

O. J. R. H.

THE HUMAN FORM.¹

MANKIND in general is imbued with a deep-rooted instinct of interest in the human form, the reality of which is substantiated by the contrast between the uncouthness of the ape and the gracefulness of man, which this interest, working through sexual selection, has brought about.

¹ "Die äusseren Formen des menschlichen Körpers in ihrem allgemeinen Zustandekommen. By Prof. E. Gaupp. Pp. 57. Thirteenth part of the "Sammlung anatomischer und physiologischer Vorträge und Aufsätze." (Jena: Gustav Fischer, 1911.) Price 1'50 marks.

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But while it is thus ingrained in the nature of all human beings, not excepting even Schopenhauer, to find some fascination in the contemplation of the forms of the rest of our species, there are two classes of students whose business it is, during the course of the technical training for their professional work, to familiarise themselves with the exact topography of the surface of the human body and to inquire into the nature of the factors which determine its form. The artist, be he sculptor or painter, studies the body for the purpose of reproducing its features in the creation of statues or pictures; the medical man because the visible parts of the body afford the landmarks to guide him in the perilous undertakings incidental to his professional labours in the hidden depths of the body.

Although these two classes of students work in the same field of investigation they are seeking different kinds of knowledge, for much of the information that is of vital importance to the surgeon is of no interest to the sculptor. Teachers of anatomy have recently begun to realise that the usefulness of teaching in surface anatomy can be enhanced by taking a wider view of the subject in imparting knowledge to either class of students by borrowing judiciously, both in methods and knowledge, from the other class.

It is now widely acknowledged among teachers of anatomy in medical schools that the use of living models, after the manner of the art-teacher, is essential as a corrective to the mistaken ideas of the surface form of the body acquired from the cadaver in the dissecting-room; and the professional teacher of art-anatomy, if he is in the habit of dissecting, is able to impart to the medical student a great deal of useful information which he acquires when looking at the body from his own viewpoint. The time has come when the real teacher of anatomy for artists has begun to realise that it is not enough to show his students the human skeleton and demonstrate its muscles. He must give him facilities for examining and handling the muscles, and for investigating the nature and arrangement of tendons, aponeuroses, and intermuscular septa, and for studying the varieties of fatty tissues, and the factors (sex, age, and the individual and racial characters) that modify these packing tissues.

But, most important of all, he must be taught the difference between a dead and a live muscle, and between a living muscle that is in active contraction and one that, though "resting," is in a state of tonicity, which is a condition vastly different from the flaccidity of a dead or paralysed muscle.

Such studies are essential if the artist is to portray living men in action, and not merely models in the attitude of performing the given act. By this it is not meant that the student of art should attempt to fathom the mysteries of the "Integrative Action of the Central Nervous System," but he should learn the general principles of reciprocal action of muscles and the meaning of tonus.

As a concise and well-balanced introduction to these wider aspects of surface anatomy, Prof. Gaupp's most admirable little brochure deserves to be read by every student of art and medicine; and it is to be hoped that the kind of teaching his book supplies will soon become available in all schools of true art.

In Manchester during the last four years we have had an excellent demonstration of the strikingly beneficial results that can accrue to the student of art when anatomy is taught by an adequately trained teacher with the facilities which a dissecting-room affords.

At a moment when the constitution of the provincial schools of art in this country is in the melting-pot, and new alliances are being discussed with local universities, it is important to emphasise the benefits of such a working association between a school of art and a school of medicine, which will be useful to both.

G. ELLIOT SMITH.

NOTES.

DR. H. BRERETON BAKER, F.R.S., has been appointed to succeed Sir Edward Thorpe, F.R.S., as professor of chemistry in the Imperial College of Science and Technology, South Kensington, at the end of the present session.

Mlle. E. CHANDON has been appointed assistant astronomer at Paris Observatory.

THE widow of the late Prof. Hitzig has given 84,000 marks to the Prussian Academy of Sciences for the encouragement of researches on the brain.

IN reply to a question relating to the protection of ancient buildings and other historic monuments, asked in the House of Commons on March 6, the Prime Minister announced that the First Commissioner of his Majesty's Office of Works proposes to introduce at an early date a Bill dealing with the question of the preservation of ancient monuments and buildings.

THE death is reported, in his fifty-second year, of Dr. Charles Robert Sanger, assistant professor of chemistry at Harvard University from 1899 to 1903, and full professor since the latter date. Before his call to Harvard he occupied the chair of chemistry at the United States Naval Academy and at Washington University, St. Louis, successively. He was a member of the American Chemical Society and of the Deutsche Chemische Gesellschaft.

PROF. HENRY WILLIAMSON HAYNES, says *Science*, has bequeathed to the Peabody Museum of Harvard University 200l. for the library and all his prehistoric and archaeological objects, and his books and pamphlets relating to such subjects. To the Boston Society of Natural History is given his fossils, minerals, and other objects of natural history. To Harvard College is given Mr. Haynes's Etruscan, Greek, and Roman vases, and his ancient coins and medals. The Boston Museum of Fine Arts is to receive his Egyptian antiquities.

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At the meeting of the Royal Geographical Society on Monday last, Dr. J. Mackintosh Bell described some New Zealand volcanoes, and treated of recent volcanic activity in the central and northern parts of the North Island, and among the islands in the Bay of Plenty. The great eruption of Mount Tarawera in 1886 was treated exhaustively, and the present topography of the mountain as the result of twenty-five years' erosion on the material piled up in the course of the eruption was shown. The other volcanic regions were similarly dealt with.

THE Biological Survey of the U.S. Agricultural Department has secured the cooperation of the National Zoological Park in experiments in breeding mink for the purpose of ascertaining the possibilities of rearing them in captivity for commercial purposes. This has never been attempted by the Government heretofore, but it is hoped that by the combined efforts of the two organisations something of practical importance can be accomplished. The main object in view is to secure data relative to the best methods of rearing mink for their fur, especially as to details of housing, feeding, mating, and caring for them.

A REUTER message from Calcutta reports that in the Legislative Council on March 8 Sir S. Harcourt Butler opposed a motion (which was afterwards withdrawn) to abolish the office of Director-General of Archaeology, and said that the Government is determined to carry forward Lord Curzon's archaeological work. The Government of India, he stated, contemplates increased expenditure, an increased establishment, an improvement in the production and circulation of publications, and especially the training of Indians for research and other work. Part of the scheme is the absorption of the Director-General in the Research Institute.

As statements have been published from time to time relating to the transmission of tuberculosis through the use of telephones, and especially of those in public call offices, the Postmaster-General has had the matter thoroughly investigated by Dr. Spitta, of St. George's Hospital. He has just issued a statement, in the course of which it is remarked that the final report which has now been received from Dr. Spitta shows that the results have been entirely negative. Dr. Spitta is of opinion, in view of the whole course of the experimental work, "that the transmission of tuberculosis through the medium of the telephone mouthpiece is practically impossible." These results are supported by an independent inquiry initiated some time ago by the American Government as to the condition of public telephones in the United States. They fully confirm the results of work carried out by Dr. Klein, of St. Bartholomew's Hospital, in 1905, at the instance of Dr. Collingridge, the City Medical Officer of Health, who caused a number of telephones in use at call offices of the National Telephone Company to be removed for bacteriological examination.

A PROVISIONAL programme of the first International Eugenics Congress, to be held at the University of London on July 24-30, has been issued. The general heads under which the subjects to be discussed at the