for we must, I think, recognise hereabouts a younger Boulder Clay as distinct from the "Chalky Boulder Clay" of the Herts and Essex plateau, along with interglacial deposits consisting largely of the outwashings of the older Boulder Clay.

It is easy to understand that a great latitudinal range of variations of climatic conditions in these lowland regions of south Britain would be necessarily contemporaneous with the more definitely marked *altitudinal* variations of the snow-line in the Alpine regions of Britain and Europe, whether from regional subsidence or otherwise. One may venture to say that we have here a record contemporaneous perhaps with that of the "Hessle Boulder Clay" or the "Purple Boulder Clay" (Brit. Mus. "Guide to the Stone Age," p. 8), and with the "Würm" (vierte Vergletscherung) of Alpine glaciation (Credner, "Geologie," tenth edition, p. 739); also Werth, *Globus*, Band xcvi., No. 15, p. 231).

A. IRVING.

Bishop's Stortford, August 9.

The Anti-kathodes of X-Ray Tubes.

THE special requirements to be fulfilled by materials adapted for use as anti-kathodes are somewhat exacting, and the range of such materials is therefore limited. It is, further, unfortunate that the platinum, tantalum, &c., are in general costly, and that the expense of X-ray tubes is hence, considering their life, high. In casting about for some means of avoiding this difficulty it has occurred to me that carborundum, a material now quite familiar as an abrasive, might be a suitable facing for the anti-kathode. Carborundum, being a product of the electric furnace, is exceedingly refractory; electrically it is a very bad conductor. Messrs. Helm have constructed for me a tube fitted with an anti-kathode from a square inch of carborundum grinding slip, and I have used this tube, so far as my limited laboratory means allow, with perfectly successful results. My coil is only of low power, and I have no means of making any comparative tests of a quantitative type. It seems likely, on theoretical grounds, that the emission from such a tube would be of low penetrative power, but, so far as I can judge, the tube does not seem to pass so readily into the hard condition.

My object in this letter is to bring this matter to the notice of others who are in a position to test the properties of carborundum as an anti-kathode material. If its radiation is of a low penetrative type, such a tube might have advantages in certain superficial treatments in electrotherapeutics, *e.g.* ringworm of the scalp, &c. I should be greatly interested in hearing of any experimental trial.

J. SCHOFIELD.

Technical School, Keighley.

The Action of Carbon Dioxide on Litmus.

I WRITE to direct attention to the inaccuracy of a common statement in elementary text-books describing the action on litmus of carbon dioxide in solution.

It is generally stated that the action of carbon dioxide is to turn litmus "wine red," while the fact is that carbon dioxide dissolved in distilled water turns neutral litmus red, just like any other acid.

The cause of the wine-red colour usually obtained is the presence of alkaline bicarbonates as impurities. That this is the case can be seen by adding a drop of ammonia or of sodium carbonate solution to the carbon dioxide solution, when the colour changes, first, from red to blue, and then, after an interval which depends on the amount of alkali added, to the wine red usually associated with the action. A weak solution of lime water acts similarly, and this would seem to give the genesis of the error, as if hard waters are used to make up the solutions the wine-red colour is produced.

The point may not be of the greatest consequence, but it does not seem to be generally known, and the columns of NATURE would seem to offer the best means of disseminating, to those whom it chiefly concerns, the knowledge of another "text-book" error.

M. M'CALLUM FAIRGRIEVE.

The Edinburgh Academy, July 26.

THE BUSHONGO: AN ETHNOGRAPHICAL STUDY OF THE CENTRAL CONGOLAND PEOPLES.[1]

IT is difficult to write an adequate review of this work, the result of Mr. Emil Torday's last expedition to central Congoland (1907–9), an expedition in which he was accompanied by Mr. M. W. Hilton-Simpson and a very clever painter, Mr. Norman H. Hardy. Mr. Torday has had the advantage of the collaboration of Mr. T. A. Joyce, of the British Museum and the Royal Anthropological Institute, and Mr. Joyce has been able to bring to bear on the compilation his exceptional knowledge of negro arts, implements, customs, religious beliefs, morals, laws, social life, games, songs, and folklore.

The water-colour drawings by Mr. Norman H. Hardy are, beyond all question, the best that have ever been executed so far in Negroland. They have the absolute fidelity of photographs, with at the same time an appreciation of composition and colour which makes them really works of art. Special instances to justify this praise are:—Plate 5, a masked dancer of the Bangongo (Fig. 1); plate 7, female dancers amongst the Bangongo; plate 8, a Bangongo embroideress; plate 9, a portrait of a Bangongo blacksmith; plate 11, Shika, a young girl of the Isambo tribe; plate 12, a young Bashilele man, with the profile of an ancient Egyptian (Fig. 2); and amongst the black-and-white drawings, plate 17, a study of a native engaged in the manufacture of vegetable salt (Fig. 3), together with certain interiors of houses. Three of the plates referred to are here reproduced in a reduced form.

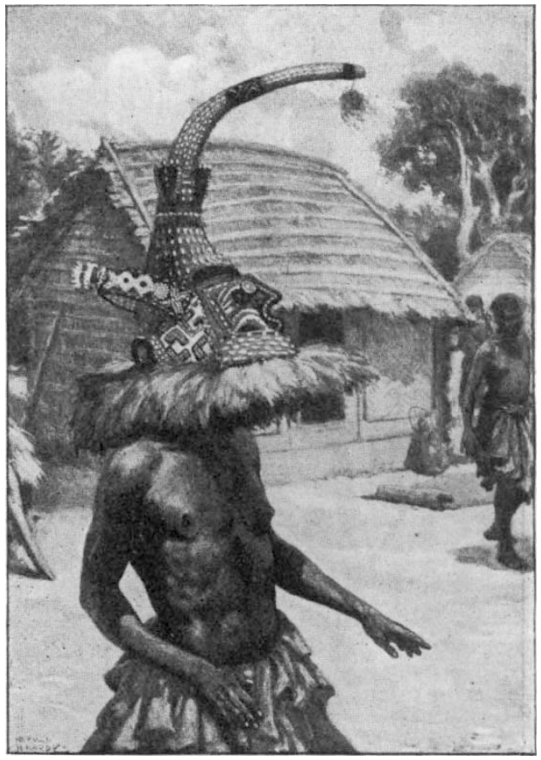

FIG. 1.—A masked dancer of the Bangongo.

1 'Notes Ethnographiques sur les peuples communément appelés Bakuba, ainsi que sur les peuplades apparentées. Les Bushongo." By E. Tordey and T. A. Joyce. Annales du Musée du Congo Belge. Publiées par la Ministère des Colonies. Ethnographie, Anthropologie—Série III: Documents Ethnographiques concernant les populations du Congo Belge. Tome II.—Fascicule I.—Coloured illustrations by Norman H. Hardy. Published by the Museum of the Belgian Congo, Brussels.