

on the southern slope of the Alp gradually gathers a little stream, the Brenz, as appears on the next sheet (607). Railroads crossing the Alp at Geislingen and Ebingen, further southwest, are similarly located; thus exemplifying the principle announced by Oldham (SCIENCE, II., 688). There are three sheets, 559, 574, and 590, of somewhat earlier issue on which the deep-incised meanders of the Neckar and its abandoned loops are beautifully portrayed.

TOPOGRAPHICAL MAP OF DENMARK, 1:100,000.

THE beautiful sheets of this series, printed in six colors for different soils and cultures, with most delicate expression, have comparatively little of importance to show of the flat inland topography, but exhibit many interesting coastal outlines.

On the inland waters of Limfjord (Lögstör sheet), the shore frequently swings in curves of small radius or projects in fine sharp spits, appropriate to the easy turning of litoral currents of small volume and strength; but on the exposed coast of the west and north, facing on North sea, the shore is modulated in long sweeping curves, adjusted to the slow swinging of the larger bodies of water there in movement. The Thisted sheet and others of previous issue as far north as Skagen, contain many examples of this kind. This recalls the different scale of meanders adopted by small brooks and large rivers. The *offset*, or outstanding position of one stretch of shoreline with respect to the next, may be taken to indicate the up-stream portion of the prevailing litoral current; this feature also being neatly shown on the North sea coast of the Thisted sheet, where the current seems to come from the southwest. Along the eastern coast, a north-to-south movement is implied by the offset of the coast north of the outlet of Limfjord compared to that on the south (Aalborg sheet); and this is clearly confirmed by the long sandbar of

Stensnæs near by, tangentially overlapping southward (Frederikshavn sheet).

W. M. DAVIS.

HARVARD UNIVERSITY.

CURRENT NOTES ON ANTHROPOLOGY.

THE ETHNOLOGY OF MADAGASCAR.

THE occupation of the island of Madagascar by the French, in the year 1895, led to the publication of a number of articles on the history, languages and ethnology of the island. The two which I have found most instructive are one in the *Revue Scientifique*, by Prof. E. T. Hamy, 'Les Races Humaines de Madagascar,' and one in the Journal of the Anthropological Institute, by J. T. Last, 'on the languages of Madagascar.'

It is gratifying to find that both agree on the main question involved—the relationship of the oldest historic inhabitants of the island. This is distinctly *not* African, as many have supposed; nor is it Arabic, as some have argued; but it is 'Indonesian,' or 'Malayo-Polynesian,' that is, the earliest known possessors of the soil came from Malasia and Melanesia, and belonged to the so-called 'brown race.' Their language to this day is strongly affined to the Malayan; and this is true not merely of the dominant Hovas, but of the mass of the people. For about a thousand years, however, there has been a constant importation of negroes from Africa, and an arrival of colonists from the northern Semites; and these two admixtures have deeply tinged the blood of the stock.

PRE-GLACIAL MAN IN ENGLAND.

PROFESSOR Joseph Prestwich has lately published a volume entitled 'Collected Papers on some Controverted Questions in Geology' (London, 1895). Two of these papers have a deep interest for the anthropologist, one on the glacial period with reference to the antiquity of man in western

Europe; the other on the primitive flint implements found in the gravels on the chalk plateau of Kent. Although they both appeared before, they have now been published with additions.

Their conclusions may be briefly stated. The author thinks man probably lived on the Thames and the Somme in pre-glacial times, a period he would put at 30,000 to 50,000 years ago. The worked flints of the plateau—generally small, extremely rude and never ‘compound’ (*i. e.*, used with handles)—he attributes to these early men. Numerous illustrations of them are inserted, from which their artificial character is evident. The author’s discussion of the questions involved is able and satisfying.

D. G. BRINTON.

SCIENTIFIC NOTES AND NEWS.

ASTRONOMICAL.

DR. SEE, of the University of Chicago, announced in the *Astronomical Journal* of November 13th that the well-known binary star 70 Ophiuchi exhibited anomalies in its motion which could only be explained on the supposition that there is a non-luminous perturbing body in the system. This matter acquires especial interest from the fact that this star is one of those binaries for which we possess a really accurate orbit. The theory of this star’s motion published recently by Prof. Schur in the *Astronomische Nachrichten* is perhaps the most elaborate investigation of a double star orbit yet made. It was therefore very surprising to hear that the mean of thirteen nights’ observations by three American observers gave the error of Schur’s ephemeris as nearly five degrees in position angle, although only three years had elapsed since the computation of his orbit. The matter cannot yet be regarded as settled, for Prof. Schur shows in the last number of the *Astronomische Nachrichten* that the American observations are not in agreement with his own most recent heliometer observations, which agree very closely with his ephemeris. On the other hand, they are supported by the most recent observations at Paris by M. Callandreau,

though these are in disaccord with those of Herr Ebell at Berlin. It is to be hoped that numerous observations of this most interesting star will be made in the near future. H. J.

PROF. E. C. PICKERING announces in Circular No. 4 from the Harvard College Observatory that a new star in the constellation Centaurus was found by Mrs. Fleming on December 12, 1895, from an examination of the Draper Memorial photographs. Its approximate position for 1900 is in R. A. $13^h 34^m .3$, Dec. $-31^\circ 8'$. Attention was called to it from the peculiarity of the spectrum on Plate B 14151, taken at Arequipa on July 18, 1895, with the Bache Telescope, exposure 52m. The spectrum resembles that of the nebula surrounding 30 Doradus, and also that of the star A. G. C. 20937, and is unlike that of an ordinary nebula or of the new stars in Auriga, Norma and Carina. This object is very near the nebula N. G. C. 5253, which follows $1^h 28$, and is north $23''$. No trace of it can be found on 55 plates taken from May 21, 1889, to June 14, 1895, inclusive. On July 8, 1895, it appeared on a chart plate, B 13965, and its magnitude was 7.2. On Plate B 10472 taken July 10, 1895, its magnitude was also 7.2. On December 16, 1895, a faint photographic image of it, magnitude 10.9, was obtained with the 11-inch Draper Telescope, although it was very low, faint and near the sun. On this date, and on December 19, it was also seen by Mr. O. C. Wendell with the 15-inch Equatorial as a star of about the eleventh magnitude. An examination with a prism showed that the spectrum was monochromatic, and closely resembled that of the adjacent nebula. Although the spectrum is unlike those of the new stars in Auriga, Norma and Carina, yet this object is like them in other respects. All were very faint or invisible for several years preceding their first known appearance. They suddenly attained their full brightness and soon began to fade. Like the new stars in Cygnus, Auriga and Norma, this star appears to have changed into a gaseous nebula.

ANTARCTIC EXPLORATION.

The *Century* for January contains an article by Mr. Borchgrevink describing ‘The First Landing on the Antarctic Continent,’ which is