

THE "COMPANION TO THE OBSERVATORY."—The 1905 edition of the well known "Companion to the Observatory," published at 1s. 6d. by Messrs. Taylor and Francis, contains its usual complement of useful data for all kinds of astronomical observations. Ephemerides for the planets and their satellites, the Greenwich magnetic elements, the times of maxima and minima and the periods of numerous variable stars and data relating to a number of double stars are given amongst the mass of information contained.

As in previous years, Mr. Denning gives the dates and radiant points of the principal meteor showers and Mr. Maw has supplied the double-star tables, whilst the ephemerides of an ever-increasing number of variable stars have been taken from advance proofs generously contributed by M. Lœwy.

GLACIATION IN NORTH AMERICA.¹

THIS volume, which has only recently reached us, is by no means of merely local interest. The first 226 pages form a treatise on glacial geology in general, and represent the author's views after some twelve years of study of drift deposits in the field. No one who examines plates i. to vi. can mistake the character of these deposits; these excellent photographic pictures would meet, indeed, with international acceptance. On p. 30 we have some suggestive figures given as to the area of existing glaciers, from which it appears that the whole drift-covered country in North America is only ten times as large as that still covered by ice in Greenland. The Antarctic ice-sheet, moreover, is as extensive as that postulated for North America in "Glacial" times, a fact that effectually "removes the element of incredibility which, at first thought, attaches to so striking a theory as that of the glacial origin of the drift." The northern ice, however, as Mr. Salisbury immediately points out, extended into temperate latitudes, and special explanations must thus be sought. New Jersey, we may observe, lies on the latitude of Lisbon and Sicily in the northern hemisphere, and corresponds with Cape Town and Melbourne in the southern and more glacial hemisphere. Mr. Salisbury at present seeks the cause of older widespread glaciations (p. 192) in Chamberlin's hypothesis of variations in the amount of carbon dioxide in the atmosphere. Elevation accelerates rock-decay, and this process promotes refrigeration by withdrawing carbon dioxide from the air. The possibility of variation in the constitution of the atmo-

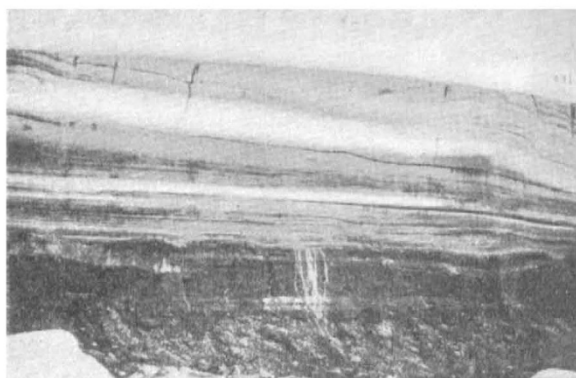


FIG. 1.—Side of a glacier in Greenland, showing the moraine-débris in the lower part, while the upper ice is almost free from it.

sphere, owing to the emanations of volcanoes, is also touched on as one of many other causes controlling the supply of carbon dioxide.

Plates xviii. and xix. are valuable for the comparison they afford between the landscapes formed by the uniform

¹ "The Glacial Geology of New Jersey." By Rollin D. Salisbury. Vol. v. of the Final Report of the State Geologist. Pp. xxviii+802; plates and folding maps. (Trenton, N.J.: MacCrellish and Quigley, 1902.)

ice-cap of Greenland and the protrusion of peaks through a dwindling ice-area in the familiar scenes of Switzerland. Other interesting photographs from Greenland occur on plates xxv. and xxvi., and one of them is here reproduced (Fig. 1).

The general propositions stated by the author are illustrated by examples of moraine-material, striated surfaces, &c., from New Jersey, so that dwellers in that State may now acquire a new insight into the topographic features round them. Mr. Salisbury restricts the word *kame* to material washed out from and left against the irregular

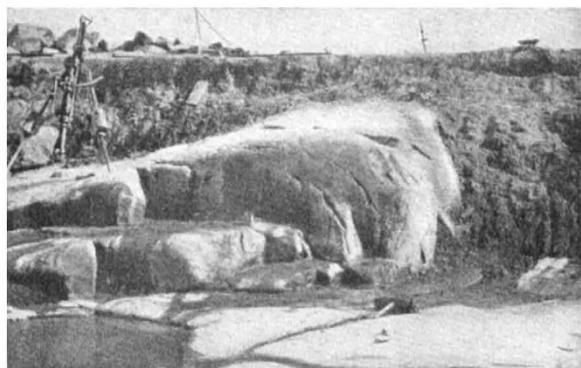


FIG. 2.—Glaciated surface of "trap" at Weehawken, New Jersey.

margin of a glacier (p. 116), while *eskers* represent the channels of subglacial streams. Seeing how these two terms have been interchanged, as the author's references show (p. 136), it might have been well to invent a new word for the special type of water-formed terminal moraine which the author describes here as a *kame*. Chapter v., on changes in drainage resulting from glaciation, contains a very suggestive study of the former glacial lakes in the flat basin west of Newark. The concluding 550 pages are concerned with "local details," the meaning of which becomes clear after so excellent an introduction. One of the most striking illustrations is that facing p. 537 (Fig. 2), where the "plucking" away of blocks along the joint-planes of a glaciated surface is clearly shown by the step-like structure and abrupt details of the lee side of a *roche moutonnée*. This term, by the by, does not seem to be defined in the earlier portion of the book.

In conclusion, we could wish that some "State Survey" would give us a similarly comprehensive memoir for the glacial provinces of the British Isles. G. A. J. C.

THE PEOPLE OF THE NORTH-EAST OF SCOTLAND.¹

IT is to the credit of the Anatomical and Anthropological Society of the University of Aberdeen that it can issue *Proceedings* in a form far superior to those of the Anatomical Society of Great Britain and Ireland—the only other anatomical society in this country. Even in the contents of its *Proceedings* the younger society, founded and fostered by the professor of anatomy in the university, compares not unfavourably with the older society.

Naturally one turns first to those papers which deal with the people in the north-east of Scotland. By common repute they are a shrewd, "hard-headed" race. In a well written paper on the contents of short cists found in Aberdeenshire and neighbouring counties, Dr. Alexander Low tells all that can at present be known of their ancestors, the prehistoric inhabitants of this part. The picture drawn by Dr. Low is founded on the broken skeletons of eight men and

¹ *Proceedings* of the Anatomical and Anthropological Society of Aberdeen University, 1902-04. Pp. 155, 28 plates, 22 figs. in text. (Aberdeen: University Press, 1904.)