

Some interesting facts, throwing light on the origin of the Dwyka, have been obtained by the Commission. The most important is the discovery of undoubted scratched stones, resembling true glaciated pebbles; a large boulder of granite, 10 feet by 8 feet in section, was found lying in the Dwyka in the poort, where the Witteberg River cuts across the Dwyka ridge, south of Lainsberg. The pebbles consist of several varieties of granite, several kinds of more basic igneous rocks, sandstones, quartzites, argillaceous and calcareous rocks, and vein quartz. There are distinct bedding planes in the rock, and the bedding is everywhere conformable to that of the quartzites of the underlying Witteberg Group.

Extensive superficial deposits, probably in most cases of recent origin, are mapped in several localities. The most interesting of these are the sand dunes on the shores of False and Table Bays and over large areas in the Malmesbury district. In some places the entire mass of the dunes has been converted into a more or less compact sandstone or limestone, that at Saldanha Bay being quarried as a building stone. These deposits have sometimes been taken as of Tertiary age, but the occurrence in them of recent shells, often of terrestrial genera mingled with bones of rhinoceros, elephant, etc., points to their recent origin.

WALCOT GIBSON.

MEMOIRS OF THE GEOLOGICAL SURVEY.

III.—THE WATER SUPPLY OF SUSSEX FROM UNDERGROUND SOURCES.

By WILLIAM WHITAKER, F.R.S., and CLEMENT REID, F.L.S., F.G.S. 8vo; pp. iv, 123. (London: printed for H.M. Stationery Office, 1899. Price 3s.)

MR. WHITAKER, more than any other member of the Geological Survey, devoted attention during his long official career to the important applications of geology to questions of water supply. Now that he has retired from the Survey he has been good enough (as the Director-General points out) to assist Mr. Reid in arranging the numerous records of well-sections, which form the bulk of the present Memoir. The work, in fact, contains all information which could be obtained concerning the well-sinkings and borings in Sussex, with analyses of many of the waters, and a brief introductory account of the geological formations met with in the county. It cannot fail to be of great practical value.

DESCRIPTIVE MONOGRAPH OF THE AMMONITE GENUS *PERISPINCITES*.

IV.—MONOGRAPHISCHE BESCHREIBUNG DER AMMONITENGATTUNG *PERISPINCITES*. By Dr. JOS. VON SIEMIRADZKI. Palæontographica, Bd. xlv (1899), pp. 69–352, pls. xx–xxvii.

THE Ammonite genus *Perispincites*, founded by Waagen in 1869 as a subgenus of *Stephanoceras*, and shortly afterwards raised to generic rank by Neumayr, Zittel, and Waagen himself, has now become so large that any attempt to classify the forms which have been included in it is not only a difficult task, but entails a vast

amount of labour and research. For the present monograph of this very extensive genus the author therefore deserves our best thanks. He tells us that in its preparation he has consulted 128 separate publications in German, French, English, Italian, Spanish, Polish, and Russian; and that besides his own collection, which contains several hundred examples of the genus, he has examined the collections of several private individuals, as well as those of various Continental museums. In some cases in which the author was unable to see the type-specimens he obtained plaster casts of them, in order to gain a correct idea of the species. One great difficulty in dealing with this genus is caused by the very vague manner in which several specific names, such as *biplex*, *plicatilis*, *polylocus*, and *polygyratus*, have been used, due in some cases to the inadequate description or figure of the type-specimen. The author concludes that a precise limitation of the genus from allied genera is not possible, and that its limits must be drawn somewhat artificially. The author devotes a short but interesting chapter to the morphology of the shell, and then proceeds to the classification of the genus, in which he recognizes about 367 species, only a few of which are new. His investigations lead him to divide the genus into six sections, which he groups into five subgenera, thus:—I, *Grossouria*, n. subgen. (including II, *Biplices*, Sutner); III, *Ataxioceras*, Fontannes; IV, *Perisphinctes*, s. str.; V, *Procerites*, n. subgen.; and VI, *Choffatia*, n. subgen. These are divided into 'Mutationsreihe,' or developmental series, and these again into 'Formenreihe,' or groups of contemporaneous species. The author gives a description of each species, lateral views of the new forms and of some others are given on the eight photographic plates accompanying the work, an outline of the transverse section of the whorl and a drawing of the suture-line of many of the species being given in the illustrations which are included in the text. There is an index to the work, but this appears to be somewhat incomplete.

G. C. C.

REPORTS AND PROCEEDINGS.

GEOLOGICAL SOCIETY OF LONDON.

I.—May 10, 1899.—W. Whitaker, B.A., F.R.S., President in the Chair. The following communications were read:—

1. "The Geology of the Davos District." By A. Vaughan Jennings, Esq., F.L.S., F.G.S.

Alpine geology has attracted many workers since the date of Professor Theobald's classic memoir on the district of which Davos forms part, and new principles of interpretation have been established. The author has more especially studied (a) the age of certain rocks formerly classed as 'Bündner Schiefer,' but distinct from the grey shales variously regarded as of Jurassic or Tertiary age; (b) the origin and date of the serpentine near the Davoser See; and (c) the tectonic structure of the district. The following