

with the Clay-with-flints and associated Pebbly Clay and Sand, are considered to be formed by local ice and snow, somewhat earlier than the deposits usually regarded as Glacial. The three deposits differ only lithologically, having been derived from somewhat different strata.

Glacial channels are described in the Chiltern Hills, and the Chiltern Gaps are considered to have been cut by streams from the glacier which was retreating northwards from the Chilterns and damming up lakes between the ice and the hills, as on F. W. Harmer's hypothesis.

The pre-Glacial course of the Thames is described between Bourne End and Ware, via Beaconsfield, Watford, Hatfield, and Hertford, and the river is traced up to its source (the present Kennet) and down to its mouth in the Wash, near King's Lynn. The Goring Gap is believed to have been non-existent and the Upper, or Isis, Thames was an independent river. The Kennet-Thames was plugged up by Glacial deposits, below Bourne End, and the present Thames, beyond Bourne End, and the Colne, were cut. Laminated, or Varve, Clays at Ware indicate a Glacial Lake there, and this is believed to have cut the Amwell Gorge and thereby produced the present River Lea.

Above the Varve Clays is the main Boulder Clay, indicating a readvance of the ice; and it is suggested that the gravels formed by the melting of this ice are of the age of the Boyn Terrace gravels, thus connecting Glacial and River Gravels.

OBITUARY.

Sir Henry Hoyle Howorth, K.C.I.E., F.R.S.

BORN 1ST JULY, 1842.

DIED 15TH JULY, 1923.

The death of Sir Henry Howorth has removed a notable figure from among English geologists. A man of many parts, he was keenly interested in natural science, and, in his latter years especially, devoted much attention to geology. His knowledge was encyclopædic and he was a keen controversialist, but he lacked some of the qualities which go to the making of a great geologist. In his various geological writings he consistently upheld the importance of water-action as opposed to ice-action in producing various phenomena connected with the drift-deposits, and though he was an ingenious advocate, yet at the time of his death he was probably alone in his beliefs concerning the origin of these drifts.

His books are a storehouse of facts, and in the voluminous foot-notes are useful references to the work of others. His principal geological works are "The Mammoth and the Flood", "The Glacial Nightmare and the Flood", and "Ice or Water?" Three volumes of the last-named were announced, but only two appeared.

In addition to his larger works, he wrote a number of papers in various periodicals, and was a frequent contributor to this Magazine. He was for many years a familiar figure at the meetings of the Geological Society and of the Geological Section of the British Association, and often spoke in the discussions.

Though his views were so antagonistic to those held by others, and were maintained with uncompromising vigour, he made no enemies among geologists. Such men, who have not adopted geology as a profession, have ever played an important part in the geological world in past times, and it is to be hoped that they will continue to do so in the future.

ANNOUNCEMENTS AND INQUIRIES.

Dr. C. A. Matley expects to submit for publication the results of his field work on the Mona Complex of the Lleyn between Aberdaron and Nevin, and on the Ordovician tract to the east of it, soon after his return to Great Britain from Jamaica next spring. The field work was practically completed in 1921 before he left for the West Indies, but a further visit to the ground is necessary for the preparation of some horizontal sections across the area.

Mr. C. Barrington Brown has recently brought home and has presented to the Sedgwick Museum of Geology at Cambridge a collection of Tertiary and Carboniferous fossils from the Amotape Mountains, near Cabo Blanco, in North-West Perú. These fossils are being investigated by Mr. H. D. Thomas and Mr. A. G. Brighton.

Mr. Brown is shortly returning to Perú to continue geological work and to complete a study of an early Pleistocene whale-bed which he discovered last year.