

and is daily carried into the lake, whose water has thus become turbid and greenish in colour. The rock excavated along the copper veins is of a greenish colour, as may be seen by looking at the tips from the adit-levels.

This change of colour in Llydaw explains the colour of Glaslyn, about the cause of which there has hitherto been some doubt. For it cannot now be doubted that Glaslyn owes its green colour to the detritus of green rock washed into it from the adit-levels of the mines.

J. R. DAKYNS.

P.S.—I should say that the mines are situated immediately above Glaslyn.

SNOWDON VIEW, NANT GWYNANT, BEDDGELERT.
January 21st, 1903.

THE TERM 'HEMERA.'

SIR,—Mr. Buckman appears to think that stratigraphy is nothing but geological chronology i.e., that it is chiefly concerned with the days and weeks of geological time, and that the actual sequence of rocks is of less importance.

He will not admit that his definitions of the term *hemera*, or his correlation-table of zones and *hemeræ* in *Quart. Journ. Geol. Soc.*, vol. xlix, p. 519, are open to misconstruction, and yet he complains that most of those who have essayed to use his term have misunderstood the meaning he intended to give it. It now appears that in that table he was giving us a geological calendar, and not an ordinary correlation-table of rock-subdivisions.

The real fact is that Mr. Buckman gave a name to an abstract idea relating to a thing which had no definite name at the time when he wrote. His paper was a stratigraphical one, and he cannot deny that he was actually dealing with the subdivisions of zones, yet, instead of proposing a name for the small subdivisions which he recognized in the sequence of deposits, he gave a name to the time occupied in the formation of each subdivision; in other words, he saw no necessity to give a name to the thing itself, but only to the geological day or week in which it was formed.

He asserts that he was giving a name to the duration of a zone, but this assertion is inconsistent with his original definition of a *hemera*; he says, "successive *hemeræ* should mark the smallest consecutive divisions which the sequence of different species enables us to separate in the maximum developments of strata." Now, a zone is not the smallest possible subdivision of a series of beds, and Mr. Buckman's own tables show that he knew it was not, for they show that it took the time of two or three *hemeræ* to form one zone. Hence, if a *hemera* is anything at all it is not the duration of a zone, but of some subdivision of a zone.

The only point that Mr. Buckman has made quite clear is, that he will not have his term 'hemera' used as the name of a rock-division, but he has not clearly indicated with what recognized subdivision of a stage he wishes the term to be connected. If he makes any reply to this letter, let him state clearly whether he accepts the term *subzone*,

and whether he intends the word hemera to denote the duration of a subzone. If he does, then I can safely promise that he shall not in future be annoyed by my misuse of the term, for I will take care never to use it except on those infrequent occasions when I want to express the time during which a certain subzone was formed. My chief concern is with the actual stratigraphical unit and the fossils which it contains; a name for the time-unit may be convenient, but is of quite secondary importance. Hence his *reductio ad absurdum* does not trouble me.

A. J. JUKES-BROWNE.

TORQUAY, February 4th, 1903.

OBITUARY.

HENRY STOPES.

BORN FEBRUARY 17, 1852.

DIED DECEMBER 5, 1902.

WE regret to record the death, on December 5th, 1902, of Mr. Henry Stopes, for many years a Fellow of the Geological Society of London. He was born at Colchester on Feb. 17th, 1852, and it was perhaps his early association with that ancient place which turned his thoughts to antiquities. When a boy of 8 he found a fossil *Echinus* in the playground gravel, and after seeking in vain from all he met an explanation of its peculiarities, he took it to bed with him, that he might meditate at leisure in the morning over its meaning. For this he was punished, but the punishment only intensified his interest, and he kept that stone, which became the nucleus of a large geological collection. He early brought together a fine series of Essex Crag shells, part of which is now on loan at the Stratford Museum. While collecting this, he received from a friend, a fellow-collector, a specimen of *Pectunculus glycimeris*, which the latter had himself taken from the Red Crag at Walton-on-the-Naze, with a rude carving of a human face on it. Mr. Stopes read a short note on this at the British Association Meeting at York, 1881 (see Report, p. 700). The carving has not been generally accepted as conclusive by all geologists and anthropologists in England, but some French anthropologists have done so. It is mentioned in Keane's "Ethnology," p. 78. Mr. Stopes considered that the carving suggested pre-Glacial man;¹ he was the first to set to work to disprove or verify it, and it thus determined the direction of his later researches. He took a house near the gravel-pits of Swanscombe, where he made many interesting discoveries, notably that of the association of Palæolithic implements in a sand-bed there with *Neritina fluviatilis* and other extinct species of shells (see his paper in the Journ. Anthropol. Inst., xxix, p. 302). He has collected an enormous number of stone tools, chiefly Palæolithic. His first paper on "The Salting Mounds of Essex" was read before the Essex Antiquarian Society, Dec. 20th, 1884, and was published in the *Essex Naturalist*, April and May, 1887. He read many papers

¹ [It must be borne in mind that the drawing on the shell from the Crag of Essex is open to the same objection as is the cut bone of a Cetacean from an Italian Tertiary deposit, also attributed to man's handwork, namely, that both deposits are marine.—EDIT.]