

that all papers should begin on a separate page; and that they should bear, as a heading, the full title of the publication in which they appear. My object is to facilitate work. I venture to say that it is a saving of time and temper for anyone, whether specialist or not, to have all their literature on any particular subject, or subdivision of a subject placed together: to attain this it is necessary to "break" publications, and to assort their papers. At present this too often entails the destruction of the preceding or succeeding paper—a matter for regret when only a limited number of copies is issued.

My suggestion would obviate this. I could wish it were applied to all publications in which original communications occur; but this, I fear, is Utopian. To the publications, however, of societies dealing with various sciences it is very necessary; to the publications of those dealing with one science it is quite as imperative, because subdivisions of a science are so numerous now. Very frequently the object desired could be attained by moving the first paper in the volume by one page; but in any case not one extra (blank) page per paper would be required. Expense, therefore, can hardly be urged against the proposal; while the boon conferred would be very great.

S. S. BUCKMAN.

THE MAMMOTH AND THE GLACIAL DRIFT.

SIR,—I have no desire to prolong this unprofitable controversy and must decline further argument with Sir H. Howorth, who still imagines he has completely proved his case, and who imputes to me words which I never employed. He takes up your space with discussing "authority" as if I had used the term, whereas my phrase was "the generally accepted views of geologists," or in other words what Sir Henry himself calls "the orthodox geological opinion."

With Dr. Hicks the case is different; but I think he should have known me better than to imagine I had the slightest idea of posing as an "official" or "professional" geologist. I used the term "practical," and by a *practical geologist* I mean anyone who has had experience in the work of mapping geological boundaries and collecting evidence for the construction of profile sections. By "approved work in the field" I mean work which stands the test of investigation by other geologists. I think Dr. Hicks will agree with me that a man who merely visits some well known sections in a faulted Palæozoic district is not entitled to criticize accepted views of its structure. Similarly in studying areas of Drift deposits it is often impossible to say whether a given patch of gravel is above or beneath Boulder-clay from a mere inspection of open sections, though their relations may become clear when the area is carefully mapped.

Is Dr. Hicks prepared to say, as Sir H. Howorth does, that there is no good ground for supposing the Hoxne deposits to be underlain by the neighbouring Boulder-clay? and in the face of Mr. Reid's statement in this *MAGAZINE* (1888, p. 442), does he consider the

superjacent patches of Boulder-clay to be in place? Unless he refuses credence to the observations of Messrs. Prestwich, H. B. Woodward, and C. Reid, he cannot support Sir H. Howorth.

I have confined myself to denying Sir Henry's contention that Mammoth-bearing deposits are "never underlain by Glacial Drift." I am perfectly prepared to admit that Mammoth-remains do occur under undoubted Glacial deposits, as Dr. Hicks maintains, but that is not the point in question.

A. J. JUKES-BROWNE.

EXETER, Feb. 7, 1893.

A BORING AT WILLOUGHBY IN LINCOLNSHIRE.

SIR,—I think you will find that the boring at Willoughby, mentioned in the paragraph quoted from the "Morning Post" in the GEOLOGICAL MAGAZINE for February, was made in 1887. I have some particulars of the strata passed through which I hope to publish shortly, and will only now say that it supplies valuable information about the subterranean structure of that part of Lincolnshire. The boring passed directly from Glacial Drift into the so-called Neocomian, without the intervention of any kind of Chalk. Water was found at the top of the Spilsby Sandstone.

EXETER, Feb. 7.

A. J. JUKES-BROWNE.

SUBTERRANEAN EROSION.

SIR,—In the GEOLOGICAL MAGAZINE for September, 1892, Mr. Morton, F.G.S., criticised a paper I read in December, 1891, before the Geological Society, entitled "The Subterranean Erosion of the Glacial Drift, a probable cause of Submerged Peat and Forest Beds" (Quart. Journ. Feb. 1892, pp. 96-103). So far as Mr. Morton's criticisms partake of the nature of a defence of his theory of the origin of the submerged Peat and Forest-beds of Lancashire and Cheshire as described in his work entitled "The Geology of the Country around Liverpool" I do not propose to discuss, for if Mr. Morton's theory be right then my theory must be wrong, and *vice versa*.

Mr. Morton's remarks, however, go beyond the mere local application of the principle of subterranean erosion. In concluding, he writes, "It is very remarkable that such an active agent has not been observed in Tertiary formations of the South of England where the beds of clay and sand are similar and occur under the same conditions." I go further even than Mr. Morton, viz.—If the principle of Subterranean Erosion be true at all it will prove as true in the past as in the present (under the conditions mentioned) and as wide in its operations as the law of gravitation. In the Quart. Journ. of the Geol. Soc. vol. xlviii. p. 103, I defined Subterranean Erosion as follows:—

"That *wherever* water percolated through such unconsolidated beds as clays, sands, and gravels, *along an inclined plane*, it was constantly carrying the lighter materials of such strata towards the *nearest point of escape*. *The nearer the approach to the point of escape*,