

explanation involves certain difficulties. The shape of the outlier, as I still think it must be called, is roughly oval; the mass dropped in would therefore be cone-shaped. If it were a case of piping, which I do not think it is, this might be intelligible, but it is difficult to conceive a fault taking such a form. Nor is the difficulty lessened by the occurrence of several other small outliers in the immediate neighbourhood.

The structure seemed to me to be the same as that of the narrow strip of Tertiary beds near Lulworth, as Mr. Fisher suggests, except in one detail. In both cases the chalk, after running horizontally, or even dipping gently southwards, turns abruptly up so as to dip at 80° or more northwards; and in both, Tertiary beds, reposing naturally upon the Chalk, have shared in the flexure, and have been preserved from denudation in the elbow of the fold. But while at Lulworth the Isle of Purbeck fault coincides with the abrupt upturn of the strata, and thus runs between nearly horizontal Chalk and Eocene and nearly vertical Chalk, at Bincombe the Ridgeway fault runs at the base of the Chalk, and between it and Oxford Clay. I was not able to find any faulting there between the Chalk and the Eocene. That the abrupt upturn traverses the Bincombe outlier, we know by the fact that the gravels composing it are partly vertical, as shown by Mr. Fisher, and partly gently inclined, as proved by an exposure close to the western end of the outlier, where the chalk dips at only 15°. I quite agree with Mr. Fisher that in passing from south to north he is reading an ascending section in the Eocene strata.

A. STRAHAN.

CARDIFF, 8th June, 1896.

#### THE AYRSHIRE "SHELL-BEDS."

SIR,—Many of your readers have doubtless been interested by Mr. John Smith's letter in your last number regarding his discovery of "interglacial shell-beds" at various heights in Ayrshire. Mr. Smith also read a paper on the subject at a recent meeting of the Geological Society of Glasgow.

While fully acknowledging Mr. Smith's great industry and perseverance in tracing out these "shell-beds," I would ask leave through your columns to repeat a *caveat* which I ventured to express at the meeting referred to, viz., against assuming offhand that the deposits are necessarily "interglacial," or true marine deposits *in situ*. It appears to me that there are many hints and indications that they may be accounted for in another way, and that it will require further prolonged and careful observations before we can pronounce upon them with any certainty. There can be no doubt, to begin with, that the Clyde ice extended in great force over the lowlands of Ayrshire up to the feet of the Galston and Muirkirk Hills. Boulders of West Highland schists are found plentifully as far up as the neighbourhood of Loudon Hill, and in similar localities. The abundant deposits of sand, gravel, and silt in some of the side-valleys are just what might be expected in these circumstances. The crushed and fragmentary condition of the shells, or very many

of them, also suggests caution in drawing inferences. In some places they are found in the typical boulder-clay of the district.

I have since had the pleasure of seeing some of the sections in Mr. Smith's company. All I say is, there are abundant materials for investigation, and it will be well not hastily to leap to conclusions. *Festina lentè* is a good motto—especially as regards shell-beds.

GLASGOW, 11th June, 1896.

DUGALD BELL.

P.S.—By the way, the term "shell-bed" is apt to be misleading. It may suggest a well-defined layer or band of shells, fairly well preserved; but the actual "find" is often only some fragments scattered here and there throughout the clayey or sandy deposit, as the case may be.

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### OBITUARY.

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#### THOMAS BEESLEY, J.P., F.C.S.

BORN MARCH 28TH, 1818.

DIED MAY 15TH, 1896.

THOMAS BEESLEY, who was born at Banbury, commenced business as a chemist and druggist in 1844 at Chipping Norton; two years later he succeeded to a similar business in his native town, and from this he retired in 1887. He was a man of great literary and scientific culture, expert as an analyst, and one who had a wide acquaintance with botany, archæology, and geology. During the past thirty years he gave especial attention to geology, and in 1872 communicated a valuable paper on the geology of the neighbourhood of Banbury to the Warwickshire Naturalists' Field Club (see *GEOL. MAG.*, vol. ix, p. 279). In the following year he acted with Prof. Morris in directing an excursion of the Geologists' Association to Banbury (*Proc. Geol. Assoc.*, vol. iii, p. 197). The Lower Lias of Fenny Compton engaged much of his attention, and he made a fine collection of fossils, especially of Belemnites, from the zones of *Ammonites Jamesoni*, *A. armatus*, etc. (*Proc. Warwick Nat. Club*, 1877). Later on he gave an account of the sections exposed on the railway between Banbury and Chipping Norton; and at Easter, 1878, he acted in conjunction with Mr. Huddlestone in directing an excursion of the Geologists' Association to Chipping Norton (*Proc. Geol. Assoc.*, vol. v, pp. 165, 378). In 1883 he announced the discovery of a new local fossil, which he named *Discina Gunnii*; but as the fact was published in the *Banbury Guardian* of August 9th it can hardly be considered as a proper palæontological record. Kind-hearted and genial by nature, Mr. Beesley was ever ready to give help and information to those who sought it, and his memory will be cherished by all who had the happiness to know him.

H. B. W.

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It is with deep regret that we have to record the death of SIR JOSEPH PRESTWICH, D.C.L., F.R.S., F.G.S., F.C.S., which took place early on the morning of the 23rd June, 1896, at his country house, Darent Hulme, Shoreham, by Sevenoaks, Kent, in his 84th year. For an account of his life and works, with an excellent portrait, see the *GEOLOGICAL MAGAZINE*, Dec. III, Vol. X, June 1898, pp. 241-6.