

The mass which lies to the east and terminates at Roche Castle does not present sufficient similarity to these to be included in the same description. The Roche-Castle rock, however, instead of being bedded, was originally andesitic or trachytic, the felspar crystals having been replaced by pseudomorphous quartz.

Attention was drawn to the highly acid character of the whole series, and the small size of the centres of eruption, and it was suggested that such centres have continually decreased in number and increased in magnitude during geological time.

2. "On further Discoveries of Vertebrate Remains in the Triassic Strata of the South Coast of Devonshire, between Budleigh Salterton and Sidmouth." By A. T. Metcalf, Esq., F.G.S.

The author gave a brief stratigraphical account of the Triassic rocks of the coast. He then described some vertebrate remains, consisting chiefly of portions of jaw-bones with teeth in line, probably of Labyrinthodonts, found in the Upper Sandstones (Ussher's classification) at High Peake Hill, near Sidmouth, by H. J. Carter, Esq., F.R.S. At numerous places between Budleigh Salterton and Sidmouth Mr. Carter and the author had found a large number of isolated bone fragments. Such fragments had been submitted to a microscopical examination by Mr. Carter. In some specimens the bone structure was visible throughout; in some the bony portion had been partially removed and replaced by an infiltration of mineral matter; in others the removal of the bony portion was complete. From these facts the author drew the conclusion that a comparative abundance of vertebrate life was maintained during the Triassic period; and that the rareness of Triassic fossils was due not so much to the paucity of animal life during that period as to the fact that Triassic strata afforded no suitable conditions for the *preservation* of organic remains.

CORRESPONDENCE.

THE MIDDLE HEADON MARINE BED.

SIR,—I do not know why Mr. S. V. Wood should think it strange that I have repeated Mr. Keeping's statement, as to the Middle Headon bed at Hordle, described in former years, not having been *in situ*.

Mr. Searles Wood, senior, described the bed he saw, and then left the locality. Mr. Keeping resided at Milford for many years within a mile of the spot, and he relates that he saw this portion of the bed worked out. Had the seam been continuous, and not a detached mass, why should he have been unable to follow it horizontally into the cliff? Instead of doing this, Mr. Keeping states that he went to a higher level, and dug down on to the bed through the gravel talus. This operation he has repeated this autumn, and the readiness and accuracy with which he selected the spot for the digging, sinking a pit directly down on what appeared to be the edge of the bed formerly exposed by him, convinced me of the truth of his views.

That the statement "10 or 12 feet above high-water mark" is strictly corroborated by our estimate of "13 feet above the beach" is, I think, rather doubtful, as high-water mark is, excepting at high spring tides, a few feet below the top of the beach.

On page 3 of Mr. Wood's paper, he speaks of "that more purely freshwater formation both *above* and beneath the marine stratum," and he leaves the question of the beds exposed to the eastwards being Upper or Lower Headon an open one. Now we have shown clearly that there are no beds between the marine stratum and the gravel at Paddy's Gap, except one foot and a half of unfossiliferous white sand, which can hardly be referred to the freshwater Upper Headon series; and further that the Unio beds distinctly underlie the Middle Headon. Unless the supposed Upper Headon beds were portions of the Unio beds, what were they?

Is it not better to settle a discussion of this nature on the spot by an examination, and excavation where necessary made at the present day, than to have an argument on observations made many years ago.

All geologists recognize the great value of the work done here, as elsewhere, by the late Mr. Searles Wood; but surely his son writes somewhat unadvisedly in demanding apologies from Mr. Keeping.

OTTERBOURNE, near WINCHESTER,
Dec. 21st, 1883.

JOHN W. ELWES.

THE MIDDLE HEADON MARINE BED.

SIR,—What could have induced Mr. Searles Wood to write a long article on the Long Mead End Upper Bagshot Sands (*GEOL. MAG.* Nov. 1883) I cannot conceive, seeing that the discussion was strictly on the position of the Middle Headon Marine bed. Was it that he was desirous of informing us that his father had discovered the Upper Bagshot Sands in July, 1843? Mr. Searles Wood seems, however, to have overlooked the fact that it had been mentioned by several previous writers—by Webster in 1824, Lyell in 1829, and D'Archiac in 1838.

I do not for a moment blame Mr. Searles Wood in looking after his father's interests; but this, it seems to me, is the reverse of what he is doing, for he implicates his father in several mistakes which he has himself made. Thus he states distinctly (*GEOL. MAG.* Nov. 1883, p. 496) that the Upper Headon does occur at Hordwell; the late Mr. Searles Wood was much more cautious, for he admits that he regarded it as Upper Freshwater "more from position than from its organic contents," thus leaving it an open question.

Our object has been to show that there is *no* Upper Headon at Hordwell, and this I believe we have succeeded in doing. I have myself worked at these cliffs more or less every year for the last 42 years, and we merely wished to add a few facts to what was already known.

Mr. J. W. Elwes having so well described (*GEOL. MAG.* Nov. 1883) the position of the beds in a pit we sank last September, I need hardly say more on this point, excepting that it is not likely that this Middle Headon Marine bed would ever have been found