

their flesh on, the cave could contain. And this and many other arguments have been used expressly by Dr. Buckland to prove the caves were inhabited by the fossil animals while they were living. Mr. Allen can never reconcile these facts with his bubble theory. As to caves having no mouths, it is certain they must have, or have had, if we find anything in their stomachs. It would be equally consistent to argue that the flies found in the crop of a swallow must have produced the stomach in which they were found as to argue that caverns could be filled by bones of beasts without any orifice for the beasts or the bones to get in by.—ED. GEOL.]

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*The Portland Fissures.*

SIR,—Though I should be sorry to do anything which would prolong the discussion on the Portland ossiferous fissures, I am induced to notice a statement, by Mr. Allen, in your July number, p. 253; namely, that a Plymouth correspondent informed him “that there was no aperture in the cavern” (discovered at Oreston in 1859), “and that some of the bones were embedded in ‘compact rock.’”

In some sense each of these assertions is correct:—

1st. The cavern when discovered certainly had no aperture; it was easy however to discover where there had been one. The so-called *cavern* was more correctly a *fissure*, originally open at the top; but which, after the receipt of its varied contents, had been closed up with coarse breccia, consisting of large angular masses of limestone, which, from time to time, had fallen in from above and become cemented with carbonate of lime.

2ndly. Some of the bones were embedded in stalagmite, which might truly enough be termed “compact rock,” but could not possibly be confounded with the true limestone. The quarrymen invariably gave it the distinct local designation of “callis.”

It is undesirable further to occupy your space, and indeed, it is unnecessary to do so, as this subject has already been discussed in your Journal. See ‘Geologist’ for 1859, p. 439, etc.

I am, truly yours,

W. PENGELLY.

*Lamorna, Torquay, July 17th, 1863.*

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*The Bone Spear-head from the Essex Coprolite Pits, figured in the ‘Geologist’ for 1861, page 558.*

SIR,—As the remains of man or his works, in any geological formation, is one of the most interesting discoveries of the present age, no manufactured article of decidedly geological age, be it ever so rude, should be cast aside or consigned to the cabinet without there being first brought forward all the evidence possible as to its age and its origin.

Therefore when a specimen is procured, we should first show it to be one actually worked, and not formed by chance; secondly, prove from what stratigraphical formation it has been taken; and, thirdly, ascertain how far back in the scale of geological time this formation dates.

The specimen which induces me to make the first inquiry is a bone spear-head, which, about five years ago, I procured from a heap of coprolites belonging to Messrs. Rhodes, Smith, and Co., manure manufacturers, of Selby, along with sharks' teeth, *Fucus contrarius*, oysters, and various pieces of bone, all of which seem to be of the same geological age. This

heap of coprolites had been got from the Essex Crag, but as to what depth and the exact locality in the deposit this specimen had been embedded I have been unable to ascertain. It was the reading over, about three years since, of the interesting accounts in the 'Geologist' of the discoveries of M. Boucher de Perthes, which first caused me to look closely over the specimens I possessed from the Essex beds, and I was at once struck with the form of this bone-weapon, as one being fashioned by hand and not by accident. It seems to have been struck from the shank bone of some large animal, and in form somewhat resembles the large flint-pointed implements from Abbeville, and is nearly of the same size. Its length is  $4\frac{1}{2}$  inches, and breadth  $2\frac{3}{8}$  inches.

Believing this specimen to be a true worked one, I will endeavour to prove that it is a true fossil, and of the same age with the coprolites with which it was found. Its colour and density are the same as those of the teeth, shells, and other bones; it gives, also, the same metallic ring or clink when struck. Its point and edges are a little rounded down and polished by the action of water, as are the various other phosphatic specimens taken from the same formation. It is marked with slight scratches or striae, particularly on one of its sides.

On the third point, I am not sufficiently acquainted with the Essex coprolite-beds to make out their exact stratigraphical age; yet, by the little I have learnt, I am led to think that this specimen, if a truly worked one and of the age of that deposit, is the oldest example known, and may probably carry the age of man nearly as far anterior to the specimens found in the gravels of Abbeville as those specimens date from the present time.

This is an interesting inquiry and worthy of further research; and I trust that the noticing of this specimen will be the means of further examples being procured *in situ* from the same formations.

Yours,

J. R. MORTIMER.

Finber, Yorkshire, July 15th, 1863.

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## FOREIGN INTELLIGENCE.

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An able article on the former connection between Northern Africa and Southern Europe was communicated, by Professor Edward Suess, to the meeting of the Imperial Geological Institution of Vienna, on the 20th of January last. We have deemed it sufficiently important to translate:—

A letter addressed lately by M. Anca, of Palermo, to M. Senoner, affords me the opportunity of returning again to a subject which I have already treated on, some time ago,\* and the reconsideration of which seems to me very proper, not only to show the value of the studies of M. Anca, but the importance also of such researches in respect to the observations which are now being undertaken at Vienna.

I mentioned in my former article that the researches of my distinguished professional colleague, M. Hörnes, on the fossil mollusca of the Vienna basin, showed the unexpected concordance of many species of our marine fauna with those which are now living on the coast of Senegambia; and

\* Meeting of the Imp. Acad. of Sc., January, 1860, p. 159.