Professor Buckland stated as his opinion, that the mass of matter of which the Island of Portland is composed on drying cracked and so formed these fissures. But how is it these fissures did not extend up to the surface-soil, where the evaporation must have been greatest, and where there appears no trace of them? Several teeth and a tusk of an elephant have recently been discovered in the dirt-bed of the Portland quarries."

The truth of these facts mentioned in the 'Current Notes,' which, in all material circumstances, are similar to the facts mentioned in the 'Times,' has been confirmed to me by Captain Manning himself, who has several times shown me, at Portland Castle, human and other bones, and amongst them those of the elephant, which have been discovered in the fissures of the Portland rock. Captain Manning stated that these fissures did not extend to the surface of the rock.

The truth of these geological facts may be easily ascertained by any person visiting Portland Island.

If human and other bones have been found in fissures which have no communication with the surface of the earth and are covered with solid stone, must they not have entered the rock before its consolidation, and, consequently, when it formed part of the bed of the sea? And must not, therefore, the men and animals to whom the remains belonged have inhabited some other dry land, which probably no longer exists? And does not this render probable the opinion of M. Cuvier, expressed in the following words:—"I conclude, with MM. De Luc and Dolomieu, that if there be any fact well established in geology it is this, that the surface of our globe has suffered a great and sudden revolution, the period of which cannot be dated further back than five or six thousand years. This revolution has, on one hand, engulfed and caused to disappear the countries formerly inhabited by men and the animal species at present best known; and, on the other, has laid bare the bed of the last ocean, thus converting its channel into the present habitable earth"?

The period of this revolution, which MM. Cuvier, De Luc, and Dolomieu believe to have been effected by an interchange of land and sea, synchronizes very nearly with the one usually assigned to the Mosaic Deluge.

Your obedient servant,

THOS. D. ALLEN.

*Rectory, North Cerney, Cirencester, Jan.* 23, 1863.

---

## *Glyptolepis—Dura Den.*

DEAR SIR,—The Rev. Mr. Mitchell, in his communication regarding this genus in your number for February, omits to mention that the discovery that what formerly used to be named *Holoptychius Flemingi* is in reality a species of Glyptolepis, is by no means quite new.

The attention of Professor Huxley, Mr. Robert Walker, of St. Andrew's, and myself, having been directed to the Dura Den fishes, in consequence of rather extensive excavations in the Den, which, through the kindness of Mrs. Dalgleish, were allowed to be made in the summer of 1861, for furnishing specimens to the St. Andrew's Museum, we seem independently to have arrived at that conclusion. Towards the end of last summer, in writing me, of date 24th September, 1862, Mr. Walker states, "What was rather a curious coincidence," etc., "I left the Museum with a pretty strong conviction that the scales of *Holoptychius Flemingi* and Glyptolepis appeared to be one and the same, when here comes your letter

to strengthen that conviction." (I had just written him to that effect.) Mr. Walker has, undoubtedly, the merit of first making this discovery public; this he did in an admirbale paper, describing most accurately this species, *H. Flemingi*, and stating his conviction that it belonged to the genus Glyptolepis. This paper was read on, I think, the 22nd of November last, before a meeting of the Literary and Philosophical Society of St. Andrew's, and has since been published in the 'Annals and Magazine of Natural History.'

Not only must the *Holoptychius Flemingi* hereafter be looked on as belonging to the genus Glyptolepis, but it seems to me exceedingly probable, that Holoptychius may ere long be altogether merged into that genus. The only species of Holoptychius on which I have never yet been able to detect scales, showing the crescent of points on the anterior half so characteristic of those of Glyptolepis, is *H. Andersoni*, and this I am at present inclined to think not a good species at all. Of *Holoptychius giganteus*, the only good specimen I have yet examined is the superb one in the collection of Lady Kinnaird; of this it is the ventral surface which is exposed, and on the anterior portion the scales show very distinctly the characteristic markings of the *Holoptychius giganteus* of Agassiz; along the flanks on both sides they as clearly assume the Glyptolepis character, in many instances showing the crescent of points so distinctly as to be readily observed by the unaided eye, while towards the tail the scales assume the exact appearance of those on *Holoptychius Andersoni;* indeed, so exactly does this fish resemble *H. Andersoni* in form, in the comparative size and disposition of the scales, in the position, structure, and form of the fins, so far as preserved, in the comparative size and form of the head and jugular plates, indeed in everything except size, that I am much inclined to think *H. Andersoni* the young of *H. giganteus*, increased age developing the different sculpturing on the scales. Mr. Walker refers in his paper to a very imperfect specimen of this fish in the St. Andrew's Museum, the scales along the flanks also showing the crescent of points on the anterior half, the others resembling those of *H. giganteus*. Mr. Walker also pointed out to me what I fully concur with him in thinking a species, nearly allied to, but distinct from *H. Flemingi*, with which it seems hitherto to have been confounded, and in this every scale sufficiently preserved appears to have the crescent of points as in Glyptolepis. In a specimen now in my possession, which was obtained by the late Mr. P. Duff of Elgin, from the Bishop Mill (Elgin) sandstones, and which has been named, I think correctly, *nobilissimus;* I have also been able to detect one scale having the crescent of points well preserved, and I am informed by Professor Huxley, that the typical specimens of *Holopt. Sedgwickii*, in the Cambridge Museum, present unmistakable Glyptolepis scales.

Mr. Mitchell mentions a Paper communicated by me to the Geological Society of London, and published in their Journal for November last, in which I first drew attention to the occurrence of Glyptolepis scales in the Dura Den Sandstones, and in which I notice a fish as a new species of Glyptolepis. This fish, however, I now believe to belong to some other, probably new genus, the caudal and other fins, as well as the general form too little resembling Glyptolepis, while of the scales it is only the internal structure which is shown, and although on one or two the external sculpturing is imperfectly preserved, yet the body where these are situated being a good deal twisted, they may have belonged to some of the many other fishes scattered over the flag on which this is preserved.

Thus at present stands the case Holoptychius *versus* Glyptolepis; it is,

however, being carefully wrought out, and as Mrs. Dalgleish has most generously consented to allow still further excavations in the Den, I have little doubt but that this question will be decided during the course of next summer.

Yours, etc.,

JAMES POWRIE, F.G.S.

*Roswallie, February 18th*, 1863.

---

## PROCEEDINGS OF GEOLOGICAL SOCIETIES.

GEOLOGICAL SOCIETY.—*January 21st.*—1. "On a Northerly Extension of the Upper Silurian 'Passage-beds' to Linley, Salop." By Messrs. George E. Roberts and John Randall.

Sections obtained along the course of Linley Brook, near Bridgenorth, Salop, were shown to exhibit an ascending series of deposits from Aymestry shales, through Upper Ludlow rock, Downton sandstones (with bone-bed), grey shales and grits (with bone-bed), and plant-bearing shales, to Old Red clays. The lower bone-bed was stated to be chiefly composed of scales of Thelodus and broken Lingulæ, and the higher one to contain a more than usual abundance of fish-spines; and it was remarked that crustacean remains were altogether absent, but *Lingula cornea* had a range upwards to the Old Red clay. The authors considered the physical conditions of the period to be those indicated by Sir Roderick Murchison in his remarks upon the change in the character of the sediments which closed the Silurian epoch. The occurrence at Trimpley, and elsewhere, of a cornstone-band in the plant-bearing shales, was noted as giving a more defined basis for the Old Red Sandstone.

2. "On some Crustacean-tracks from the Old Red Sandstone near Ludlow." By George E. Roberts, Esq.

Tracks of a crustacean found by Mr. Alfred Marston on a thin sandstone layer, lying between two bands of cornstone at Bouldon, seven miles north of Ludlow, were exhibited by the author, and doubtfully referred to Hymenocharis. The sandstone in question was stated to be rich in crustacean and annelidan tracks and trails. The lower cornstone in the section exhibited at Bouldon was referred to the horizon of the plant-bearing shales of Linley.

3. "On the Parallel Roads of Glen Roy, and their place in the History of the Glacial Period." By Professor T. F. Jamieson.

After describing the general appearance of the roads, the author referred to the different theories that have been framed to account for them, giving his reasons for considering both the marine hypotheses untenable, and pointing out the evidences in favour of Agassiz' theory of a dam of glacier-ice having supported a freshwater lake. He especially dwelt upon the coincidence between the height of each of the parallel roads and that of a neighbouring watershed, but also remarked upon the objections to a glacial barrier, explaining how it might have shrunk at three successive periods, so as to allow of the formation of the three roads. He then showed that the period of the formation of these roads must either have been posterior to that of the submergence during the Drift period, or that the sea did not reach them during the submergence; also, that it was prior to the formation of the forty-feet raised beach of Argyleshire.

Professor Jamieson concluded by stating that his examination of Lochaber had led him to infer that the parallel roads are the beaches of ancient