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knowledge is most imperfect; since, by one party it is referred to the *Mammalia*, by another to the insectivorous monodelphs, or the *Amphibia;* and by a third to the didelphs allied to opossums, or to a genus representing the seals, in the sub-class of *Marsupialia;* whilst others make a saurian, or even a fish of it; which, it may be remarked *en passant*, appears much more in accordance with the age and the geological character of the formation which contains the fossils in question, as well as with the organized bodies with which they are associated.

ART. II.—*A Catalogue of the Fossils found in the Cornbrash Limestone of Scarborough: with Figures and Descriptions of some of the undescribed Species.* By WILLIAM BEAN, Esq.

THE cornbrash limestone on the Scarborough coast is a "thin and unimportant rock," which cannot be applied to any useful purpose: it has certainly been sometimes injudiciously used to repair our highways, a practice we hope will be discontinued, as much better road-stone may be more easily obtained. But that this "thin and unimportant rock" is not deficient in interest to the enquiring geologist, the following catalogue of its organic remains will amply testify. Commencing at Gristhorpe Cliffs, and, with some interruptions, terminating at Ewe-nab, (a wider range than Mr. Phillips has assigned it), we meet with little to reward our labours; the stone is of a bluish grey colour, and rises in shapeless masses, full of shells laid in every direction, and strongly cemented together, so that it is almost impossible to obtain a perfect specimen. A blue shale covers this rock, and may be met with four or five times within the above-named limits. It contains several fossils rarely found in the bed below, particularly *Sanguinolaria parvula*, *Cardium latum*, *Isocardia triangularis*, *Belemnites tornatilis*, *Astacus rostratus* and *As. Birdii;* the two last are in nodules which occur in the greatest abundance. Proceeding onwards we again meet with the cornbrash on the north side of the Castle Hill, and it finally disappears before reaching Peaseholm Beck. To the left of the bathing-place the same blue shale occurs as at Mill Bay, containing the same fossils; but our favourite locality is opposite Harland's cottage, where most of the fossils recorded in the following pages have been obtained: the stone is here of a reddish colour, not so coarse-grained, contains fewer organic remains, but in a better state of preservation. The mi-

nerals met with in this stratum are iron pyrites, lenticular calcareous spar, and common iron glance.

When the 'Illustrations of the Geology of Yorkshire' was published, the cabinets in this place contained only thirty-seven species of cornbrash fossils; our collection now amounts to one hundred and thirty-four, all procured by our own exertions. To this we attach some importance, after having witnessed with regret the extent to which fossil-making has been carried in this neighbourhood: and (we say it "more in sorrow than in anger") such impositions have not always been confined to ignorant and mercenary dealers. We cannot close this article without returning our kindest thanks to Miss Travis for the correct and elegant drawings which illustrate this paper.

ABBREVIATIONS.

S.—Sowerby's 'Mineral Conchology.' P.—Phillips's 'Geology of the Yorkshire Coast.'
B.—Bean.

REMAINS OF PLANTS.

Dicotyledonous wood, very much compressed.

ZOOPHYTA.

SPONGIA *floriceps*, P.
———*papillosa*, B.
CELLARIA *Smithii*, P.
FLUSTRA imperfect.
MILLEPORA *straminea*, P.
CARYOPHYLLIA
ASTRÆA *Dunnii*, B. Found by John Dunn, Esq. A unique and interesting specimen.
TUBIPORA
———? *acervalis*, B. Common in the Bath oolite.
——— *incrustans*, B. (New Sp.)
Crust very thin, spreading, smooth, and almost covered with short cylindrical tubes.

This beautiful fossil is found adhering to oysters, &c., and is very rare.

RADIARIA.

CIDARIS *vagans*, P.
CLYPEUS *clunicularis*, P.
———*orbicularis*, P.
GALERITES *depressus*, P.

CRUSTACEA.

ASTACUS *rostratus*, P.
——— *Birdii*, B.

One if not both of the above species must be removed from this genus. We have perfect specimens from the inferior oolite, which will be described should the fossils of that formation come under our consideration.

ANNULATA.

SERPULA *intestinalis*, P.
————*squamosa*, P.
————*clava*, B.

CONCHIFERA.

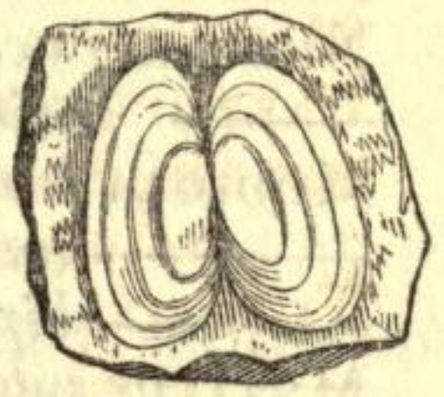
Order I.—*Dimyaria.*

PHOLADOMYA *Murchisoni*, P.
————*ovalis*, S.
————*acuticostata*, S.
————*obsoleta*, P.
————*simplex*, P.
————*nana*, P.
MYA *modica*, B.
—— *literata*, P.
—— *depressa*, S.
—— *calceiformis*, P.
AMPHIDESMA *decurtatum*, P.
————*securiforme*, P.
————*decussatum*, B. (New Sp.)

Shell oval-oblong, equivalve, unequilateral, gaping, and a little rounded at each extremity, covered with numerous lines of growth, and the anterior end finely striated longitudinally. Length 2 in., breadth $3\frac{1}{4}$ in.

This rare shell is evidently of the same family as the above; probably none of them belong to the genus *Amphidesma*.

AMPHIDESMA *recurvum*, P.
CORBULA *depressa*, P.
SANGUINOLARIA *undulata*, S.
————*parvula*, B. (New Sp. *fig.* 18).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Shell transversely oblong, compressed, smooth, and marked with a few lines of growth. Anterior end a little rounded, and the posterior with a rounded truncation. Beaks nearest the anterior extremity. Length $\frac{1}{4}$ in., breadth, $\frac{1}{2}$ in.

A rare shell, which has not yet been found in any of our other strata.

PSAMMOBIA *lævigata*, P.
TELLINA
————*proletaria*, B. Very rare.
CORBIS *ovalis*, P.
—— *lucida*, B.
LUCINA *crassa*, S.
—— *despecta*, P.
ASTARTE *minima*, P.
————*lurida*, S.
————*extensa*, P.
————*politula*, B.
————*rotundata*, B.
PULLASTRA *peregrina*, B. *Unio peregrinus*, P.
———— large species, imperfect.
TRIGONIA *costata*, S.
———— *elongata*, S.
———— *clavellata*, S.

CARDIUM *lobatum*, P.
——— *cognatum*, P.
——— *latum*, B.
——— *citrinoïdeum*, P.
——— *globosum*, B. (New Sp. *fig.* 19).


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Shell globular, equivalve, equilateral, smooth, shining, and covered with numerous very fine concentric *striæ*.
The length and breadth are equal.
Occurs in other strata, but rare in all.

——— *striatulum*, P.
CARDITA *similis*, S.
ISOCARDIA *tumida*, P.
——— *minima*, S.
——— *angulata*, P.
——— *nitida*, P.
——— *triangularis*, B. (New sp. *fig.* 20).


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We possess perfect specimens of the five species of *Isocardia* enumerated above, and consider them all distinct. The two last, in shape and size, are very much alike, but *Iso. triangularis* may at once be distinguished by its stronger concentric lines and longitudinal *striæ*.

CUCULLÆA *cancellata*, P.
———*proxima*, B.
———*triangularis*, P.
———*abrupta*, B.
ARCA *æmula*, P
NUCULA *Lachryma*, S.
——— *variabilis*, S.
MODIOLA *cuneata*, P.
——— *imbricata*, S.
——— *bipartita*, P.
MYTILUS *sublævis*, S.
PINNA *lanceolata*, S.
———*cuneata*, P.

Order II.—*Monomyaria*.

AVICULA *Braamburiensis*, P.
———*inæquivalvis*, S.
INOCERAMUS. Fragments of a very large and thick species.
GERVILLIA *aviculoïdes*, S.
PLAGIOSTOMA *rigidulum*, P.
———*interstinctum*, P.
LIMA *rudis*, P.
—— *gibbosa*, S.
PECTEN *elimatus*, B.
——— *cancellatus*, P.
——— *arcuatus*, S.
——— *inæquicostatus*, P.
——— *demissus*, P.
——— *fibrosus*, S.
——— *lens*, S.
——— *vagans*, S.

EXOGYRA *mima*, B. *Chama mima*, P.
GRYPHÆA *bullata*, P.
OSTREA *Marshii*, S.
——— *spatiosa*, B.
——— *Meadii*, S.
——— *granulata*, B.

In Dr. Murray's cabinet. Our specimen of this beautiful oyster is from the Bath oolite.

OSTREA. A small, thick, oval species.
ANOMIA *inæqualis*, B. *Ostrea inæqualis*, P.
——— *duriuscula*, B. *Ostrea duriuscula*, P.
——— *semistriata*, B. (New sp. *fig.* 21).

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Shell oval, convex, thick, with numerous longitudinal, undulated *striæ*, only visible towards the margin. Beak pointed, but not terminal.—Length, 1 in. breadth, ¾ in.

In looking over a great number of specimens of the fossils which we have placed in this genus, only one of what may be the lower valve has been met with. It is perforated, and has the appearance of the under valve of an *Anomia*, but it is very thin and fragile, and may possibly have been broken by accident.

Order III.—*Brachiopoda.*

TEREBRATULA *socialis*, P.
——— *digona*, S.
——— var. S.
——— *ornithocephalus*, S.
——— *subrotunda*, S.
——— *ovoides*, P.

This is not the *Ter. ovoides* of Sowerby, but a common shell in the shale that covers the cornbrash on the north shore. Good specimens are rarely met with, but the beak of the larger valve is always very perfect, prominent, and incurved, which gives the shell a fanciful resemblance to a bird's head.

MOLLUSCA.

Order I.—*Gasteropoda.*

BULLA *undulata*, B. (New sp. *fig.* 22).

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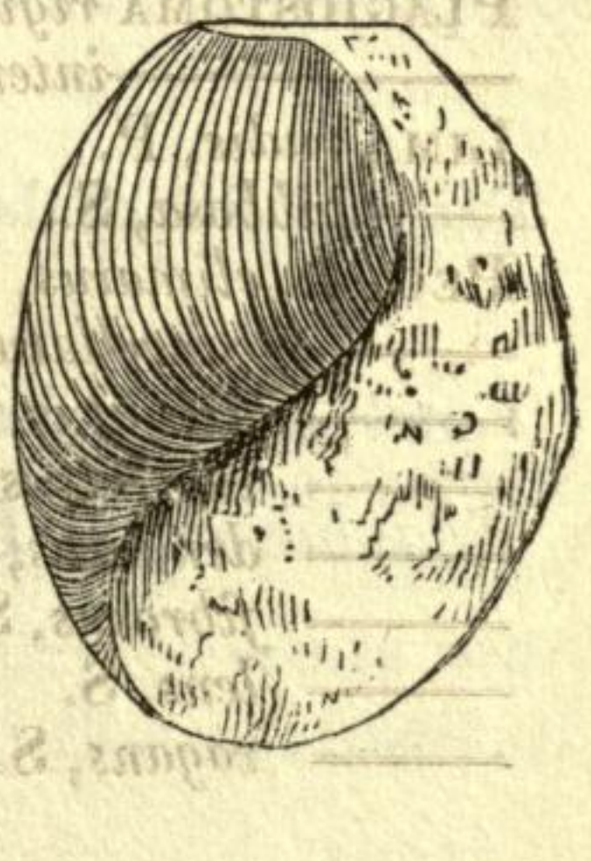

Shell oval, approaching to globular, longitudinally wrinkled or undulated. Aperture large, comprising nearly the whole shell, but much wider at the lower than the upper part. Apex umbilicated. Length, 1½ in. breadth, 1 in.

Mr. G. B. Sowerby in his 'Genera of Recent and Fossil Shells,' says,—"Fossil species are only to be distinguished in the tertiary beds and in the green sand." For once we must differ from him, at the same

time acknowledging the correctness of his general assertions. Fossil *Bullæ* are certainly rare; the specimen figured being the only one that has occurred in this neighbourhood. The *Bulla elongata* figured by Professor Phillips in his 'Illustrations of the Geology of Yorkshire,' cannot belong to this genus, as all our specimens (though imperfect) have one fold on the pillar.

VERMETUS *nodus*, B. *Vermicularia nodus*, P.
————————reverse var. B.
DENTALIUM *glabellum*, B.
CIRRUS *funiculatus*, B. *Turbo funiculatus*, P,
ROTELLA *expansa*, S.
PLEUROTOMARIA *granulata*, S.
TROCHUS *monilitectus*, P.
LITTORINA *ornata*, S.
————————*punctura*, B. (New sp. *fig.* 23).


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Shell turbinated, finely striated longitudinally and transversely, which, under a high magnifier, gives it a very beautiful appearance. Whorls six, rounded and well divided, the body whorl occupying one half the length of the shell. Aperture elliptical. Pillar lip thick and a little flattened: outer lip very thin. Length nearly $\frac{3}{4}$ in. breadth $\frac{1}{2}$ in.

The only specimen procured from the cornbrash, but in the inferior oolite at Peak Hill it is not uncommon; the specimens found there are larger, coarser, and the spire is not so much produced.

PHASIANELLA *Heddingtonensis*, S.
————————*vittata*, B. *Melania vittata*, P.
TURRITELLA *longiuscula*, B. *Tur. cingenda*, P.
———————— *gemmata*, B.
TEREBRA *granulata*, P.
ROSTELLARIA *bispinosa*, P.

Order IV.—*Cephalopoda*.

BELEMNITES *tornatilis*, P.
NAUTILUS imperfect.
AMMONITES *Hervii*, S.
———————— *terebratus*, P.

This ammonite grows to a large size, in which state it is compressed, smooth, and destitute of its former ornaments.

REMAINS OF FISHES.

Part of a fish of the genus *Lepidotus*.

REMAINS OF REPTILES.

Vertebræ and bones of saurian animals.

Scarborough, Dec. 12, 1838.