"After the collapse of the great Lake-villages it is not singular to find that a knowledge of the system remained among the surrounding nationalities, which subsequently germinated into activity in various sporadic corners, and produced not only the Scottish and Irish crannogs, but the analogous remains in Friesland, North Germany, Paladru, etc. As the great extinct mammals are known to have lingered in the recesses of mountain-ranges and other secluded localities, so the artificial islands or crannogs and other lake-habitations of the Iron Age are but the deteriorated remnants of a doomed system which, like every dying art before final extinction, passed through a stage of decay and degeneration." Dr. Munro's book has afforded us no small pleasure and profit in its perusal, and we congratulate both Dr. and Mrs. Munro on the excellence and abundance of the illustrations, which bespeak a real love of the graphic art.

A descriptive catalogue of all the objects illustrated in the text, also a copious index, and an exhaustive bibliography of lake-dwelling researches in Europe, give to Dr. Munro's volume a completeness which is, alas! too often wanting in scientific works.

II.—Descriptions of some New or Previously Unrecorded Species of Fossils from the Devonian Rocks of Manitoba. By J. F. Whiteaves. From Trans. Roy. Soc. Canada, Section IV. 1890, pp. 93–110, Plates IV. to X. (Montreal, Dawson Brothers.)

WITH the exception of *Stringocephalus Burtini*, the species described in the present paper are new. They are as follows:—

Pelecypoda.

Modiomorpha attenuata.
Megalodon subovatus.
Orthonota corrugata.

Gasteropoda.

Pleurotomaria goniostoma.
Euomphalus Manitobensis.

Cephalopoda.

Orthoceras (*Thoracoceras*) *Tyrrellii.*

Cephalopoda—*continued.*

Actinoceras Hindii.
Gomphoceras Manitobense.
Cyrtoceras occidentale.
Homaloceras (gen. nov.) *planatum.*
Tetragonoceras (gen. nov.) *gracile.*
Gyroceras Canadense.
,, *filicinctum.*
,, *submammillatum.*

In the Report of Progress of the Geological Survey of Canada for 1874–75 (p. 68), "a Brachiopod resembling *Stringocephalus*" was recorded from "the western shore of Dawson Bay," Lake Winnepegosis, "from slabs apparently derived from the neighbouring cliffs."

Collections made during 1888 and 1889 by the author and Messrs. Tyrrell and Dowling in the neighbourhood of Lakes Manitoba and Winnepegosis, included a remarkably fine series of specimens which the author considers to be specifically identical with the *Stringocephalus Burtini* of British and European areas. "They present nearly all the variations in external form which that protean species assumes," and some exhibit the internal characters. "The only appreciable characters in which the Manitoba specimens seem to differ from British or European ones are, that in the former the loop in the dorsal valve is much broader proportionately, and the

muscular impressions, which, however, are very indistinctly defined, were probably longer."

At Lakes Manitoba and Winnepegosis, all the species described in the paper, with the exception perhaps of *Gomphoceras Manitobense*, and *Gyroceras submammillatum*, were associated with this Brachiopod, a shell which, in Europe, occupies a definite horizon in the Middle Devonian.

Although based upon very meagre material, the species referred to the genus *Modiomorpha* can, it is believed, "be recognized at a glance by its unusually large size and narrowly attenuated form, although it is by no means certain that it is correctly referred to this genus." Since the hinge is not well preserved in any of the specimens collected, the species assigned to the genus *Megalodon* is provisionally referred to that genus on account of its "strong resemblance in external structure to the *M. truncatus* and *M. rhomboidalis* of Goldfuss from the Devonian rocks of the Eifel."

Of the two new Gasteropods which are described, viz. *Pleurotomaria goniostoma* and *Euomphalus Manitobensis*, the latter is stated to be one of the most abundant and characteristic fossils of the Devonian rocks at Lakes Manitoba and Winnepegosis. In addition to detached opercula, one specimen has been found in which "the shell is so broken as to show its operculum *in situ*, though a little displaced from its normal position."

A remarkable species of *Orthoceras* is described under the name *O.* (*Thoracoceras*) *Tyrrellii*. It has a marginal siphuncle and is ornamented with transverse plications and longitudinal ridges, each point of intersection of a transverse plication with one of the longitudinal ridges being marked by a short, slightly curved spine. The author observes that it "seems to belong to that group of the Orthocerata for which Fischer de Waldheim proposed the generic name *Melia* in 1829, though, finding this preoccupied, he changed it to *Thoracoceras* in 1844." Fischer gave as the type of the genus *Thoracoceras*, *Th. vestitum*—a species with a rather small, submarginal siphuncle, and ornamented with spinose. longitudinal ridges. Although adopted by some subsequent writers, the genus has been variously interpreted. According to Prof. Hyatt, who regards the genus as valid, it includes "all those longicone species in which the ridges become spiny or are roughened by the prominence of the transverse striæ or ridges," and also such forms as *Cyrtoceras corbulatum*, Barrande, *Cyrt. canaliculatum*, de Koninck and *Cyrt. Puzosianum*, de Koninck. The author adopts *Thoracoceras*, but regards it only as a subgenus of *Orthoceras*.

The figure given of *Gomphoceras Manitobense* certainly bears out the author's statement that the anterior end of its body-chamber appears to be more like that of *Poterioceras*. The species, however, is rather doubtfully referred to the genus *Gomphoceras* on account of its general resemblance to the *G. eximium* of Hall.

Two new genera of Cephalopoda are described, viz. *Homaloceras* and *Tetragonoceras*. The former is thus characterized—"Shell consisting of a slender tube which is broadly and strongly arcuate, curved in the same plane and much flattened laterally, its venter or

outer border being very narrow, truncated and depressed in the centre. Sutural line consisting of two very narrow saddles with an equally narrow sinus between them on the venter, a broadly concave sinus or lobe on each of the sides, and a rather narrow saddle on the dorsum; siphuncle in the only species known, cylindrical, exogastric, and placed near the venter or outer and convex margin. Body-chamber long, occupying about one-third of the entire length."

The author is doubtful as to which of Prof. Hyatt's families the genus should be referred, but he is "inclined to regard it as an extremely aberrant member of the Hercoceratidæ."

The other new genus—*Tetragonoceras*—is proposed for a loosely coiled shell with a quadrangular transverse section. "*Cyrthoceratites*" *tetragonus*, d'Archiac and de Verneuil, from the Middle Devonian of the Eifel, also has a quadrangular transverse section, but according to Prof. Hyatt's statement, this species, which he places in his genus *Centroceras*, appears to have been a true close-coiled Nautiloid.

Of the three new species of *Gyroceras*, *G. Canadense* and *G. filicinctum* are very like the *G. Eifelense* from the Middle Devonian of the Eifel, while *G. submammillatum* bears a most striking resemblance to an internal cast of the well-known *G. ornatum* from the same horizon and locality. G. C. C.

III.—Landscape Geology: a Plea for the Study of Geology by Landscape Painters. By Hugh Miller, of H. M. Geological Survey. 8vo. pp. 63. (Edinburgh and London, William Blackwood and Sons.)

THE pictures exhibited in the Royal Academy have at times been subjected to criticism in the pages of "Nature." The representation of clouds, waves, the apparent size of the Moon, and the delineation of rock-structure, have in turn undergone praise or stricture; and it would seem that the unhappy Landscape Artist need make acquaintance with Astronomy and Meteorology, with Geology and Physical Geography, and with Botany and Zoology, if he or she wishes to escape the scientific critic. But the plea of the Artist is that he essays to represent things, not necessarily as they are, but as they appear to him; and Mr. Briton Riviere (quoted in the work before us) says, "It is the personality of the artist, the impress on the work of the artist's own mind and intention, adequately expressed, which gives the art." Hence, "It is possible for a picture to be scientifically true and have no art at all in it; and, on the other hand, to contain several scientific blunders, and yet to be a great work of art."

No one will find fault with the Artist for representing things as they appear to him; but in pictures that aim to be topographical, it is desirable that the outlines of hill and mountain, of crag or scarp, should bear some relation to the anatomy of the earth. Mr. Miller disclaims any desire to go geologizing through the picture galleries, though he agrees with the critic who says, "Is it too much to ask that the artist shall not give us *slate* where there is only *gneiss*, or granite boulders where there are none?"