III.—NOTE ON *ELLIPSOCARIS DEWALQUEI*, A NEW PHYLLOPOD CRUSTACEAN SHIELD FROM THE UPPER DEVONIAN OF BELGIUM.¹

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THE specimen which forms the subject of this note has been kindly placed in my hands by Professor G. Dewalque for examination, and is of extreme interest and importance to me in my researches upon the Fossil Crustacea. It is *not*, as was at first supposed, the metastome of *Eurypterus* or of *Pterygotus*; on the contrary, it represents an almost entire carapace of a new genus and species of Phyllopod Crustacean allied to *Peltocaris*.

The name *Peltocaris* was given by Mr. J. W. Salter, in 1863,² to a circular head-shield of a Phyllopod from the Llandeilo Flags, Dumfriesshire, having a semicircular cervical suture (*c, d, c*) and a straight dorsal suture (*d, d*) (Fig. 1).

FIG. 1.

Shield of Peltocaris.

FIG. 2.

Discinocaris.

FIG. 3.

Aptychopsis.

In 1866,³ I described another form of head-shield of a Phyllopod from the Lower Silurian of Dumfriesshire, under the name of *Discinocaris* (Fig. 2), having a rectangular cervical suture (*c, c, c*) and *no* dorsal suture.

In 1872,⁴ I described a third form of Phyllopod shield, from the Middle Silurian of Hawick, under the name *Aptychopsis*, in which the cervical suture is rectangular (Fig. 3, *c, d, c*) and a straight dorsal suture *d, d*, is also present.

The specimen with which I have now been favoured by Professor G. Dewalque offers a fourth form to this interesting series of Phyllopod shields from the Upper Devonian. It presents us with an elliptical shield (Fig. 4), in which the cervical suture (*c, c, c*) is semicircular, as in *Peltocaris*, but the dorsal suture is *absent*, as in *Discinocaris*.

FIG. 4.

Ellipsocaris.

¹ Translated from the Annales de la Société Géologique de Belgique, Aug. 1882, T. viii. Mémoires, 4, pp. 45-49.

² Quart. Journ. Geol. Soc. vol. xix. p. 88, fig. 1, pl. xxi. fig. 10 (1863).

³ Quart. Journ. Geol. Soc. vol. xxii. p. 504, pl. xxv. figs. 4-7.

⁴ GEOL. MAG. 1872, Vol. IX. p. 564, *id.* 1873, Brit. Assoc. Rep. 1872.

We have then the following characters presented by these Phyllopods:—

- Aptychopsis* (Fig. 3), H. Woodw.
 - a. Carapace divided along the mesial line by a dorsal suture.
 - b. Cervical suture rectangular.
- Discinocaris* (Fig. 2), H. Woodw.
 - a. Carapace entire, no dorsal suture.
 - b. Cervical suture rectangular.
- Peltocaris* (Fig. 1), Salter.
 - a. Carapace divided along the mesial line by a dorsal suture.
 - b. Cervical suture semicircular.
- Ellipsocaris* (Fig. 4), genus nov., H. Woodw.
 - a. Carapace entire, no dorsal suture.
 - b. Cervical suture semicircular.

Ellipsocaris Dewalquei, H. Woodw. gen. and sp. nov.

Specific Description.—This interesting specimen was obtained by Professor Dewalque from the base of the “schistes de Frasnes,” being the lowest stage of the Famennienne series or Upper Devonian system, at Comblain-la-Tour, in the Province of Liège.

The carapace, which is elliptical in form, is preserved upon the surface of a slab of pale drab-coloured shale, and is 50 millimètres in greatest length, 24 mm. in greatest breadth; the depth of the semicircular cervical suture is 14 mm. and 12 mm. across the cervical portion. The surface is ornamented by numerous fine concentric lines of growth $\frac{1}{4}$ th of a millimètre apart; and by a wide irregular network of reticulations. Between the concentric lines of growth the carapace is also covered with very minute transverse wrinkles or vertical bars often branched and inosculating with each other. This ornamentation closely agrees with that seen upon the valves of *Estheria*, notably on those of *Estheria elliptica*, Dunker (see Mon. Pal. Soc. “Fossil *Estheria*,” by Prof. T. Rupert Jones, 1862, 4to. p. 103–4, pl. iv. fig. 7. See also *Estheria Murchisonia*, Jones, *op. cit.* p. 100, pl. iii. fig. 3).

The concentric striæ have frequently been noticed more or less distinctly in all these Phyllopod shields, but this is the first specimen in which I have seen this delicate transverse wrinkling *between* the lines of growth.

I have much pleasure in dedicating this new form under the name of *Ellipsocaris Dewalquei* to my friend Prof. G. Dewalque, its discoverer.

I have examined a large number of head-shields of Phyllopod Crustaceans, from the Silurian, Devonian, and Carboniferous, belonging to the genera *Ceratiocaris*, *Aptychopsis*, *Caryocaris*, *Discinocaris*, and *Peltocaris*; and I find that the absence of the small anterior cephalic portion of the shield, *in front of the cervical suture*, is a common condition in the fossilization of these remains.¹

As it was to this part of the shield that the muscles of the maxillipedes were attached, when the animal died, or (what is of still more common occurrence) when it exuviated, the carapace would

¹ Several specimens in the British Museum have this anterior (cephalic) portion of the carapace preserved *in situ*, so that it existed in all without any manner of doubt.

be more likely to be ruptured along this suture than anywhere else, as no doubt the lateral portions of the shield were free, as in the living genus *Apus*, the appendages being all fixed near the head to the anterior portion of the carapace in front of the cervical suture.

Ellipsocaris Dewalquei is not an exception to this rule, being also destitute of the small (cephalic) anterior portion of the shield in front of the cervical suture.¹

IV.—SUPPLEMENT TO A CHAPTER IN THE HISTORY OF METEORITES.

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(Continued from p. 429.)

PART II.

1744, December 10th (before this date). Hizen, Japan.²

Dr. Divers has drawn attention to two Japanese meteorites, the property of a gentleman, Mr. Naotora Nabeshima, formerly Daimiyo of Ogi or Koshiro, in the province of Hizen, Japan. They are heirlooms in his family, and used to be in the care of the priests of one of the family temples in Ogi, called Fukuchi-in Gomado. After the revolution the temple was closed. In the family archives there is a record of these stones having been entrusted some years after their fall to a priest named Jishobo, which is dated December 10th, 1744, and his receipt for them is also preserved; they must therefore have fallen about 150 years ago. They were formerly among the offerings annually made in the temple in Ogi to Shokujo (Tanabatatsume) on her festival, the 7th day of the 7th month; they were connected with her worship by the belief that they had fallen from the shores of the Silver River, Heavenly River, or Milky Way, after they had been used by her as weights with which to steady her loom.

The meteorites are somewhat similar in appearance, being angular masses, evidently fragments, irregular quadratic pyramids in shape. The smaller shows a number of small pits or depressions. Faintly marked thin ridges and streaks are to be seen on both stones, radiating with some regularity from about the centre of the base over the basal edges towards the apex; the edges and faces are all rounded, and have the usual very thin, nearly black, coating. The interior is light grey in colour, earthy, porous, somewhat soft, and interspersed with particles of nickel-iron and a few of troilite. The larger stone weighs 5·6 kilog., the smaller 4·6 kilog. The density of the stone was found to be 3·62.

The analysis made by Mr. Shimidzu, one of the students of the Kobu dai Gakko, led to the following results:—

¹ Since this paper appeared in the Annals of the Geological Society of Belgium in August last I have published descriptions of a series of five new forms of Phyllopod shields from the Upper Devonian of the Eifel under the genera *Cardiocaris* and *Pholadocaris*. See GEOL. MAG. 1882, September No., pp. 385–390, Pl. IX.

² E. Divers, *Asiatic Soc. Japan*, Tokiyo, Feb. 9th, 1882. *Chemical News*, 1882, xlv. 216.