

diggers. This positive testimony of coincident and uniform flint aggregation over so large an area appears to be an important fact in its bearing on the origin of flint. Mr. Bedwell had found the Ammonites entirely by trusting to the zone of life theory insisted on by Mr. Caleb Evans in his paper on the Chalk (Geol. Assoc., 1870), and had failed to find them until he had selected the faint line of flints as a datum line, and worked from that. He advised all young students of the Chalk to examine a cliff in true horizons, and not in a mere indiscriminate effort to make a large bag of specimens; to record carefully the exact chronological order of each fossil extracted, by referring it to a datum line as suggested by Mr. Caleb Evans; to keep in mind the time which may have separated the life history of two fossils, though only distant a few feet from each other; and to try and correlate two sections of Chalk rather by the succession of zones of life in each cliff than by a mere comparison of indiscriminately collected fossils. The author, in conclusion, urged the importance of allowing Nature to teach her own independent lessons at the cliff side, of supplementing Nature by books rather than books by Nature, and pointed out how easy it was for those having but little knowledge of details to be of service to Science, by simply observing and following to its end one single thread, and one only, and then laying the results before scientific men, leaving them to estimate the value of the information.

CORRESPONDENCE.

NORTHERN DRIFT ERRATICS.

SIR,—I have lately been struck with the idea that geologists living in the midland and southern counties might like to compare the erratics of their own neighbourhoods with stones from the Boulder-clay of Cheshire, where the Northern Drift may be said to attain its central and maximum development. I have therefore resolved to devote next month (July) to the task of collecting small stones, striated and cross-striated stones, chips from large stones, etc., naming and assigning the parentage of specimens, and packing and sending off boxfuls to parties who may wish for them. There will be a small charge to cover direct and indirect expenses. Those who are interested in this subject would oblige by corresponding without delay.

CHESTER, June 13, 1873.

D. MACKINTOSH.

FURTHER REMARKS ON *PTERASPIS*.

SIR,—I have lately succeeded in demonstrating the existence of real osseous lacunæ in *Pteraspis*, by preparing very thin horizontal sections from near the upper surface of the shield. The lacunæ are very minute, and form, by their ramifications, a dense net-work, very nearly resembling that in *Tolypelepis undulatus*, Pander (Monographie der fossilen Fische der Silurischen Systems, tab. 6, f. 24), from the uppermost Silurian strata of Oesel. I now regard that fossil as a portion of a *Pteraspidian* shield, and shall search for further information in that locality.

As regards the supposed connexion between *Pteraspis* and *Cyathaspis* on one side, and *Scaphaspis* on the other, the evidence furnished by Dr. Kunth's figures and description appear to me to be most satisfactory.

The specimen figured is the first Pteraspidian fossil ever detected in the numerous erratic Silurian boulders of Northern Germany, and is not selected from among a great number of similar fossils.

The two shields are not brought into contact accidentally, but correspond to each other most clearly in their size and in their mutual position.

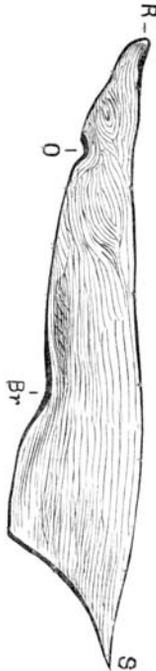
The other fragments of similar structure occurring in the same piece of stone, probably represent the cornua and some of the scales.

St. PETERSBURG,
15/21 May, 1873.

MAG. F. SCHMIDT.

NOTE ON *HOLASPIS SERICEUS.*

SIR,—Will you kindly insert the inclosed outline sketch of a lateral view of the shield of *Holaspis*, which exhibits the orbital notch in a way which was impossible in the view of the upper



Outline lateral view of the shield of *Holaspis sericeus*. R. Rostrum. S. Spine. O. Orbital notch. Br. Depression corresponding to the cornual perforation or branchial aperture of *Pteraspis*.