as the type, is evidently open to question; the arrangement of the muscle scars and of the vascular trunks, relates them to other genera rather than to Obolus, as typified by the species above named. For this reason we have felt it necessary to propose sub-generic names to indicate these important differences.

The oldest group (Eoobolus) differs from the type in the advanced position of the whole group of the central muscles of the dorsal valve; not the "*j*" laterals alone.

The second group (Palæobolus differs in the approximation of the vascular trunks of the ventral valve, which enclose only a third of the area of the valve, whereas in *O. Apollonis* one-half of the surface is thus enclosed.

The third group (Botsfordia) differs in the close grouping of the central scars of the dorsal valve, and the posterior position of the lateral scars. Also in the very large callus of the ventral valve.

The fourth group represented by *Obolus pristinus* is different by the arrangement of the scars from any of the preceding, and also by its sculpture. It is, perhaps, on the line of development of *Obolus Ella* which Mr. Walcott on account of its surface, has referred to his subgenus Westonia; it, however, has no resemblance to Westonia in its surface-markings, and the "*j*" laterals of the dorsal are much farther forward.

The fifth group (Monobolina) differs from the type in the close approximation of the anterior adductors of the dorsal valve.

There are also differences in the sculpture.— In the first group (Eoobolus) this consists of close, fine irregular waving concentric ridges. In the second (Palæobolus), of stronger and more regularly concentric ridges. In the third (Botsfordia), of cancellated ridges, forming a marked pattern. In the fourth, of fine concentric ridges, irregular in their elevation and prominence. In the fifth (Monobolina), in very fine and regular concentric ridges.

The following table is an attempt to show graphically the possible relations of the several species to each other, and to other genera, and subgenera of the Cambrian system.

The table shows the horizon in the Cambrian at which each of the species appeared in Eastern Canada, with some references to other species occurring outside that region.