

the substance filling the interlaminar cavities. Care is required in examining polished surfaces of this kind of specimen as the concretionary calcite presents much the same appearance as original skeletal fibre, so that there is a grave danger of interpreting pillars as tubes and single laminae as double (Plate II, Fig. 6).

(d) *Partial reversion*—Specimens are found in which the above process has not been uniformly performed throughout the coenosteum. These are so extremely difficult to interpret that they are best thrown aside.

(e) *Reversion and subsequent solution*—When specimens wholly or partly reversed have been subjected to the action of surface waters the secondary calcite occupying the place of the original skeleton is dissolved. Total disintegration may result or the solution may be only partial. This frequently happens in the case of reversed specimens of *Labechia* so that the position of the pillars is indicated by minute holes, presenting an appearance which has given rise to the name "Pin-hole fossils". This condition is also often encountered in specimens of corals from the Guelph dolomite (Pl. VI, Fig. 1).

(f) One other peculiarity has been observed which is liable to give rise to erroneous conclusions. In several specimens the skeletal matter is seen to be surrounded at a little distance by a dark line which is separated from the skeleton by clear crystalline calcite. This line seems to be caused by a segregation of the colouring matter much in the same manner as the banded structure arises in mineral veins. In photographic reproductions of thin sections care must be taken to properly interpret this phenomenon (Pl. VI, Fig. 2).

Owing to the imperfect state of preservation it was found impossible properly to represent the anatomy by means of photo-micrographs. The accompanying plates have been reproduced from drawings which were made in the following way. Thin sections of varying thickness were prepared and