

large crystals to such an extent as to displace the elements of the skeleton. Examined with a lens the surface of such specimens appears to be made up of a continuous mass of crystals with no appearance of organized structure whatever. Thin sections however reveal in a general way the character of the reticulation, but the minute structure of the skeleton fibre is not determinable.

(b) *Complete crystallization*—In this class of specimens the crystallization has invaded the fibre itself. The minute structure may be absolutely lost or may be apparent only by slight differences in colour. The surface resembles that of the type described above. Thin sections are quite useless, as the slight colour differences are not at all perceptible under the microscope. The only means of dealing with these specimens is to take advantage of polished surfaces on which the outline of the skeleton is sometimes shown by reason of a slightly greater density where the skeletal matter had existed.

(c) *Complete reversion* (Pl. II, Fig. 6; Pl. III, Figs. 1, 2, 5, 6)—In many cases, particularly with examples of *Labechia*, the original skeleton has been surrounded by an infiltrated matrix after which the fibre has been replaced by clear crystalline calcite; the outline of the reticulation is therefore apparent in thin sections as clear interspaces while the true interlaminar cavities appear as darker spots. In some examples the original skeleton seems to have been surrounded by a thin layer of concretionary calcite or dolomite while the rest of the interlaminar cavities were filled by less dense and more crystalline matter. The true skeleton has then been replaced by calcite as described above. The visible result of this process is that on polished surfaces the cross section of a lamina appears as two delicate parallel lines while the pillars similarly cut present the appearance of rings. Thin sections show however that the concretionary calcite is sharply bounded towards the skeletal matter but that it fades gradually into