

questions raised by this and the other specimens demanded a more detailed investigation; and I now wish to base on this, and the other specimens above referred to, some general remarks on our present knowledge of Palæozoic Gymnosperms, and more especially on those of North America.

Mr. Lacoe's large specimen, for which I have proposed the generic name *Dictyo-cordaites* in reference to its peculiar netted venation, may be described as follows¹ :—

DICTYO-CORDAITES LACOEI, Dawson. (Fig. 1)

The specimen is a branch or small stem $2\frac{1}{2}$ cm. in diameter and 46 cm. in total length. It is flattened and pyritised, and shows, under the microscope, only obscure indications of the minute structure, which would seem to have consisted of a pith surrounded by a fibrous envelope and a bark of no great thickness. It would appear, therefore, to be exogenous with a thin woody cylinder and large pith. The stem shows portions of about 15 leaves, which have been at least 16 cm. long and 3 to 4 cm. broad. They are spirally arranged and are decurrent, apparently by a broad base, on the stem. Their distal extremities are seen in a few cases, but in all seem injured by mechanical abrasion or decay. It seems most probable that they were truncate and uneven at their extremities. The stem is terminated by a cluster or compound corymb of spikes of which 20 are seen. They are slender, but seem to have been stiff and woody, and the largest are about 15 cm. in length. The peduncles are knotted and wavy in outline, as if dry and woody in texture when recent. In this they differ from most of the ordinary *Antholites*, but agree with my *A. Devonicus*,² and also with *A. rhabdocarpi* of the Carboniferous³ which they resemble in the form and arrangement of the fruit. They have short

¹ I am indebted to Professor Penhallow, of McGill University, for his kind aid in the study of the specimen.

² Fossil Plants of Devonian and Upper Silurian, 1871, Plate XIX.

³ Journal London Geological Society, 1867, Plate VII.