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I. Thallogens	{ Cryptogamous Amphigens, or Cellular Crypto- gams }	{ Lichens, Sea-weeds, Fungi.
II. Acrogens	· Cryptogamous Acrogens	{ Club-mosses, Equiseta, Ferns, Lycopods, Lepidodendra.
III. Gymnogens	{ Dicotyledonous Gymnos- perms }	{ Conifers and Cycads.
IV. Exogens	{ Dicotyledonous Angios- perms }	{ Compositæ, Leguminosæ, Um- belliferæ, Cruciferæ, Heaths. All European except Coni- fers.
V. Endogens	· Monocotyledons }	{ Palms, Lilies, Aloes, Rushes, Grasses.

Calamites are among the most abundant fossil plants of the Carboniferous period, and occur also in the Devonian. They are preserved as striated, jointed, cylindrical, or compressed stems, with fluted channels or furrows at their sides, and sometimes surrounded by a bituminous coating, the remains of a cortical integument. They were originally hollow, but the cavity is usually filled up with a substance into which they themselves have been converted. They were divided into joints or segments, and when broken across at their articulations they show a number of striæ, originating in the furrows of the sides, and turning inwards towards the centre of the stem. It is not known whether this structure was connected with an imperfect diaphragm stretched across the hollow of the stem at each joint, or merely represented the ends of woody plates of which the solid part of the stem is composed. Their extremities have been discovered to taper gradually to a point, as represented in *C. canncæformis* (Fig. 64), or to end abruptly, the intervals becoming shorter and smaller. The obtuse point is now found to be the root. Calamites are regarded as Equisetaceous plants; later botanists consider that they belong to an extinct family of plants. *Sigillariæ* are the most abundant of all plants in the coal formation, and were those principally concerned in the accumulation of the mineral fuel of the Coal-measures. Not a mine is opened, nor a heap of shale thrown out, but there occur fragments of its stem, marked externally with small rounded impressions, and in the centre slight tubercles, with a quincuncial arrangement. From the tubercles arise long ribbon-shaped bodies, which have been traced in some instances to the length of twenty feet.

In the family of the Sigillarias we have already presented the bark of *S. levigata*, at page 138; on page 155 we give a drawing of the bark of *S. reniformis*, one-third the natural size (Fig. 65).