surface, but distinguished from the Calamitæ by having no joints, and by the wider intervals between the flutings.

Syringodendra (Sternberg.)

We have before, however, remarked that some of the figures referred to this division resemble the ligneous impression represented by Mr. Steinhauer as belonging to the Phytolithus notatus, which the epidermal impressions would refer to the second tribe of Count Sternberg's Lepidodendra.

1. *Syringodendron* organum of Sternberg. T. 13. fig. 1. resembles the ligneous impressions of Steinhauer (Pl. 7. fig. 3.) above-mentioned.

2. *Syringodendron* pes capreoli (Sternberg, Pl. 13. fig. 2.) closely agrees with Phytolithus Dawsoni (Steinhauer, Plate 4. fig. 2.)

3. A *Syringodendron* agreeing with Tab. 16. fig. 1. Schlotheim Petrifactenkunde, by him called Palmacites sulcatus, is common in our coal-fields.

IV. A variety not reducible to any of the above heads, is figured by Steinhauer, Pl. 5. fig. 3, under the name *Phytolithus* transversus; a cylindrical trunk, transversely closely striated, without any traces of leaves or fibres: the general appearance like that of a large earth worm; perhaps a creeping root.

In closing this branch of our inquiry into the coal-fossils, we may remark that in all of them there is but very little appearance of ligneous matter; the carbonised or bituminous coat surrounding them, and a few traces of what has been called the Pith, forming the whole representatives of any substance of that nature; the main body consisting of an inorganic mass of clay or sandstone, most unequivocally mechanical in its origin. If these trunks had ever presented solid woody masses, it is almost impossible to conceive how such a substitution of materials could have taken place; and what is more important, it is quite contrary to the analogy of the changes which wood transferred into a fossil state is in every other instance found to undergo; for if we examine the numerous fragments of wood found in the London clay, the oolites, and lias, we shall find that it has been either simply carbonised, or else charged by infiltration through its pores with calcareous spar or pyrites; the woody structure and fibre being in every case distinctly preserved; and even in that more remarkable change in which wood passes by a siliceous infiltration into the state of wood-opal, its original structure is still preserved, often in its minutest parts, and the woody fibre seems rather masked by its siliceous invest-