having lately found similar examples, was induced to undertake a set of experiments. He placed fern leaves in clay, dried them in the shade, exposed them to a red heat, and obtained striking resemblances to fossil plants. According to the degree of heat, the plant was found to be either brown, shining black, or entirely lost, the impression only remaining; but in the latter case the surrounding clay was stained black, thus indicating that the colour of the coal shales is from the carbon derived from the plants they include. Plants soaked in a solution of sulphate of iron, were dried and heated till every trace of organic matter had disappeared, and the oxide was found to present the form of the plant. In a slice of pine-tree the punctured vessels peculiar to this family of vegetables were perceptible. These results by heat are probably produced naturally, by the action of moisture under great pressure, and the influence of a high temperature.

28. DIFFERENT STATES OF THE FOSSILIZATION OF WOOD.—A valuable communication on "Wood partly petrified by Carbonate of Lime," has recently been made to the Geological Society, by Charles Stokes, Esq.* The specimen which gave rise to these remarks was a piece of beech-wood, from a Roman aqueduct in Germany, in which were several insulated portions, converted into carbonate of lime, while the remainder was unchanged. I cannot enter at length upon Mr. Stokes's interesting obser-

* Transactions of the Geological Society, vol. v. p. 207.