

green moss, ferns, shrubs and stunted trees, the whole forming a light colored layer of two or three feet in thickness. Beneath this the contents of the bog gradually become dense and darker colored ; the green living vegetation has disappeared, but its remains yet exist in the form of rootlets, stems &c. Still lower down the bog presents a still more homogenous aspect, the vegetable matter is almost entirely decomposed, and the mass is of a uniform dark brown or black color and of a very considerable density, forming a very excellent fuel when dug out and dried. Where this material is subjected to great pressure it furnishes a material known as compressed peat which can be so manufactured as to have all the density and calorific power of coal itself, and thus is able to furnish a material of very great value for all the purposes for which ordinary coal is now applied. There is therefore a manifest resemblance between these modern bogs and those from which our beds of mineral fuel were derived ; with this exception, that the character of the growing vegetation, and the nature of the animal life which inhabited these were widely different ; while the presumption is strong that if these peat bogs could be subjected to the same conditions which affected those of the Carboniferous time, the resulting material would be a coal of somewhat similar character. Coals of an intermediate character are also found as in the great lignite deposits of the Saskatchewan and Souris areas, where the mineral still retains to a marked extent its original woody fibre. On the other hand when the bituminous coals have been subjected to the action of further heat and pressure, the result appears in the form of anthracite or hard coal, in which much of the volatile matter has been driven off. A still further alteration results in the formation of graphite. Beautiful illustrations of this latter condition are found in some deposits in southern New Brunswick, where the coal is graphitized anthracite, the containing rocks being thrown on edge and much altered.

Other kinds of rock masses may be mentioned, such as rock-salt, gypsum, shell-marl, infusorial earth, chalk, iron ores of various kinds, petroleum and petroleum-bearing shales. Of these, rock-salt has probably been formed by the evaporation of saline waters in enclosed basins, a process which has been going forward at many stages of the