

the prevalent foliation, and have here and there separated into distinct aggregates, the felspar forming a kind of labrador-rock, and the hornblende assuming the structure of perfect hornblende-schist. Numerous bosses of granite and porphyries likewise occur, traversing the diorites and schists and therefore of still later date. In the course of the Geological Survey of the Southern Highlands Mr. G. Barrow has found evidence that over and above the effects of great dynamical movements affecting wide tracts of country, a marked amount of metamorphism may be traced to the influence of eruptive granites and gneisses. He shows that a vast number of pegmatite veins which traverse the schists may be traced into bosses of intrusive granite or gneiss, the great mass of which is concealed below ground. He finds that three well-marked zones can be observed in the schists, of which the first, lying nearest to the main body of eruptive material, is marked by an abundance of sillimanite, the next by kyanite, and the outermost by staurolite. He has followed the same band of altered sedimentary material across these zones which are thus shown to be entirely independent of the original structure of the rocks. These observations, which have been extended over many hundred square miles of Forfarshire, Perthshire, and Aberdeenshire, are of much interest and importance, as they serve to connect the phenomena of contact and regional metamorphism as manifestations of one great process.⁸⁴

Greece.—In the Grecian peninsula, vast masses of chlorite-schist, mica-schist, and gneiss occur, among which thick zones of marble are interstratified. At several places in the calcareous zones fossils have been found which, though not well preserved, show that the rocks belong to the fossiliferous series of formations, and are not pre-Cambrian. These crystalline rocks in northeastern Greece lie on the strike of normal Cretaceous hippurite limestones, sandstones, and shales, and are probably of Cretaceous age.⁸⁵

Green Mountains of New England.—The Lower Silurian strata, which to the north in Vermont are comparatively little changed, become increasingly altered as they are traced southward into New York Island. They

⁸⁴ G. Barrow, *Quart. Journ. Geol. Soc.* 1893.

⁸⁵ M. Neumayr, *Jahrb. Geol. Reichsanst.* xxvi. 1876, p. 249. *Z. Deutsch. Geol. Ges.* xxxiii. pp. 118, 454. A. Bittner, M. Neumayr, and F. Teller, *Denksch. Akad. Wien*, xl. 1880, p. 395. This essay well deserves the attention of the student.