diabase as distinguished from the normal kinds in which this mineral is absent. A variety containing hornblende is termed Proterobase. Ophite, a variety occurring in the Pyrenees, contains diallage and epidote (see p. 212).

Diabase occurs both in contemporaneous beds and in intrusive dikes and sheets.

Basalt[108]—a black, extremely compact, apparently homogeneous rock, which breaks with a splintery or conchoidal fracture, and in which the component minerals can only be observed with the microscope, unless where they are scattered porphyritically through the mass (Fig. 32). The minerals consist of plagioclase (labradorite or anorthite), pyroxene (usually augite, but occasionally a rhombic form), olivine, magnetite or titaniferous iron. Many years ago, Andrews detected native iron in the basalt of Antrim, and more recently Nordenskiöld found this substance abundantly diffused in the basalt of Disco Island, occurring even in large blocks like meteorites (*ante*, p. 125). The groundmass of basalt presents under the microscope traces of glass in which are imbedded minute granules, hairs, needles, and microlites of felspar and augite. The proportion of this base varies within wide limits, insomuch that while

Fig. 32.—Microscopic Structure of Basalt (magnified). The large shaded crystals are Olivine considerably serpentinized: the numerous small white prisms are Plagioclase. A few Augite prisms occur which, to the right of the centre of the drawing, are aggregated into a large compound crystal. The black specks are Magnetite.

in some parts of a basalt it so preponderates that the individual crystals are scattered widely through it, or are drawn out into beautiful streaks and eddies of fluxion structure, in others it almost disappears, and the rock then appears as a nearly crystalline mass, which thus graduates into dolerite and basic andesite. The component minerals frequently appear porphyritically dispersed, especially the olivine, the pale yellow grains of which are characteristic.

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[108] On basalt rocks see Zirkel's "Basaltgesteine," 1870. Boricky's "Petrographische Studien en den Basaltgesteinen Böhmens," in Archiv für Naturwiss. Landesdurchforschung von Böhmen, ii. 1873. Allport, Q. J. Geol. Soc. **xxx.** p. 529. Geikie, Trans. Roy. Soc. Edin. xxix. Möhl, Nov. Act. Acad. Leop. Carol. xxxvi. (1873), p. 74; Neues Jahrb. 1873, pp. 449, 824. F. Eichstadt on Basalts of Scania, Sveriges Geol. Undersök, ser. c. No. 51, 1882. E. Svedmark, op. cit. No. 60, 1883.