

Crystalline (Phanerocrystalline), consisting wholly or chiefly of crystalline particles or crystals.<sup>61</sup> Where the individual elements of the rocks are of large size, the structure is *coarse-crystalline (granitic)*, as in many granites. When the particles are readily visible to the naked eye, and are tolerably uniform in size, as in marble, many granites and dolomites, the rock is said to be granular-crystalline. Successive stages in the diminution of the size of the particles may be traced until these are no longer recognizable with the naked eye, and the structure must then be resolved with the microscope (*fine-crystalline, micro-crystalline, crypto-crystalline*). Fine-grained rocks may also be called *compact*, though this term is likewise applicable to the more close-grained varieties of the fragmental series. The microscopic characters of such rocks should always be ascertained where possible.<sup>62</sup>

Many crystalline rocks consist not only of crystals, but of a magma or paste, in which the crystalline particles are seen by the naked eye to be imbedded. It is of course impossible, except from analogy, to determine macroscopically what may be the nature of this magma. It may be entirely composed of minute crystals, or may consist of various crystallitic products of devitrification. Its intimate structure can only be ascertained with the microscope. But its existence is often strikingly manifest even to the unassisted eye, for in what are termed "porphyries" it forms a large part of their mass. The term "*ground-mass*" is employed to denote this megascopic matrix. Microscopic examination shows that a ground-mass may consist of minute crystals,

---

<sup>61</sup> Prof. Rosenbusch proposed the term "holocrystalline" for rocks in which there is no morphous material among the crystalline constituents.

<sup>62</sup> On the crystallization of igneous rocks, see J. P. Iddings, Bull. Phil. Soc. Washington, xi. (1889), p. 71.