

rocks the former, in others the latter of these two phases is alone present. Two leading types of structure are recognized by these authors among the eruptive rocks. 1. *Granitoid*, where the constituents are mainly those of the second epoch of consolidation, but where neither amorphous magma nor crystallites are to be seen. This structure includes three varieties, (a) the *granitoid* proper, having crystals of approximately equal size; (b) *pegmatoid*, where there has been a simultaneous crystallization and regular arrangement of two constituents; (c) *ophitic*, in which the feldspars are ranged parallel to one of their crystalline faces, forming a kind of transition into microlitic rocks. 2. *Trachytoid*, distinguished by a more marked contrast between the crystals of the first and second consolidation, the usual presence of an amorphous magma, and the fluxion structure. Three varieties are named: (a) *petrosiliceous*, with trains and spherulites of a finely clouded substance characteristic of the more acid rocks; (b) *microlitic*, characterized by the abundance of microlites of feldspars and other minerals; (c) *vitreous*, derived from the two foregoing varieties by the predominance of the amorphous paste.<sup>162</sup>

It is common to introduce a chronological element into the classification of the massive rocks and to divide them into an ancient (Palæozoic and Mesozoic) and modern (Tertiary and recent) series. Certain broad distinctions can doubtless be made between many ancient and modern eruptive rocks; but, for reasons already stated, it seems inexpedient, in the present state of our knowledge, to employ relative antiquity (which must be determined by a totally distinct branch of geological inquiry, and may be

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<sup>162</sup> "Minéralogie Micrographique," p. 150.