

veloped, but the whole texture and structure of the rock are altered. Reference has been already (p. 944 *et seq.*) made to the striking manner in which foliation has been superinduced upon ordinary sedimentary rocks round large bosses of granite. The details of this change deserve careful consideration, for they possess a high importance in relation to any theory of metamorphism.

In some cases (and probably these are more frequent than has been suspected) there has been a copious injection of granitic material not merely as large veins or dikes, but in minute threads and laminae into the surrounding rock, following generally the more marked divisional planes, such as those of bedding, cleavage, or foliation. This impregnation or granitization has been strongly insisted upon by M. Michel-Lévy and has been noticed by other observers.<sup>19</sup> Near the contact of the micaceous schists of Saint Léon with the granite which pierces them, the distinguished French geologist found that the eruptive rock has been injected between the planes of the schists in leaves from a few millimetres to one or two centimetres thick, the rock has thus a ribboned appearance from the alternation of numerous dark micaceous layers with the finely granular pink or white veins from the granite. By such a process of metamorphism and injection sedimentary strata have acquired a structure that can hardly be distinguished from that of some ancient gneisses.<sup>20</sup>

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<sup>19</sup> Michel-Lévy, Bull. Soc. Geol. France, ix. 1881, p. 187; 1888, p. 221. Compt. Rend. International Geol. Congress, 1888. I have myself studied similar cases of injection among the schists around the granites near Lairg in Sutherland, and others have lately been worked out in detail by Messrs. Peach and Horne in the Geological Survey of the northeastern part of the same county.

<sup>20</sup> See Michel-Lévy "sur l'origine des Terrains cristallins primitifs," International Geol. Congress, 1888, p. 59; and the account of pre-Cambrian rocks, *postea*, Book VI.