

development of a crystalline structure can be followed through intermediate stages from ordinary sedimentary rock to thoroughly crystalline schist, remains of fossils being still observable after considerable progress has been made toward the completion of a crystalline rearrangement.

6. Not only does the crystalline character increase toward the limit of contact with the eruptive rock, but it is not infrequently accompanied with a progressive development of foliation, the minerals, more especially the mica, crystallizing in folia parallel either with the original stratification of the clastic mass or with cleavage surfaces, should these be its dominant divisional planes.⁴¹ Along the line of contact with granite, the foliation is sometimes excessively crumpled or puckered.

7. The phenomena of alteration observed round intrusive masses of such rocks as diabase and basalt undoubtedly point to the heat of the eruptive rock as their prime cause. Those that occur round the deeper-seated bosses of granitic rocks have probably involved other influences than mere heat; they so closely resemble those of regional metamorphism as to suggest modifications of one common cause for them both. In any case, mere dry heat would probably have been ineffective for the production of the more marked phases of the contact-metamorphism round granite. It was accompanied by the co-operation of water, either already present interstitially in the sedimentary rocks, or supplied to them from the eruptive mass, possibly combined with various mineralizing agents and acting under considerable pressure. Moreover, the intrusion of large bosses of eruptive rock not improbably gave rise to mechanical move-

⁴¹ In the south of Scotland the foliation round the granite bosses is coincident with stratification; round Skiddaw, with cleavage.