

have been subjected to remarkable disturbance. By this means their true origin becomes, if possible, more clear, their relative antiquity less doubtful, their affinity to the products of modern volcanos more definite. As by the modern earthquake the ground is opened far beyond the reach of lava currents, so in earlier times great fractures were not every where filled with melted rock ; but yet it is only along and near to lines of subterranean disturbance that the "hypogene" rocks have risen to the day. Their dependence on such dislocations is very unequal: granitic rocks show themselves in distinct connection with the principal ranges of mountains which mark the most considerable effects of modern subterranean disturbance. Minute scrutiny may show in many mountain chains that the granite, which is almost universally present, does not uniformly occupy the mineral or geographical axis or centre of the rocky group ; — amidst the complicated displacements which there occur, this could seldom be exactly the case ; but a glance at all good geological maps will satisfy the impartial student that the connection of granitic elevation, uplifted primary strata, and mountain country, is real, if not necessary, and of high theoretical importance. (See Vol. I. p. 38.)

Rocks which in some degree share with granite this character of central position, with respect to mountain ranges of primary strata, are hypersthenic sienite and common sienite, and certain porphyries which graduate into granite, and share its geological history. But the trap rocks generally, including in this term the augitic and hornblendic rocks, and the porphyries which are related to them, are differently circumstanced. Von Buch has remarked, concerning augitic porphyry, that it ranges parallel to, and is found constantly at the base of, great chains of mountains ; and he attributes to this porphyry a powerful influence in the elevation of the mountains. If we consider the granites as supporting lines of principal movement among the stratified masses, and recollect that, on a great scale, the angle of elevation