

—of micaceous schist into gneiss and granite—of the latter into trap—and so forth—together with the characters presented by the mineral products of existing volcanoes, prepare the mind to receive without surprise the theory of an eminent geologist and chemist, M. Fournet, *that all the primary rocks are simply sedimentary deposits metamorphosed by igneous action* ;* this opinion, however, is but a modification of that long since expressed by our illustrious countryman, Hutton, that granitic rocks are consolidated and altered sediments which were originally accumulated at the bottom of the sea.

34. METALLIFEROUS VEINS.—In my description of the fissures observable in consolidated strata, I mentioned that the great depositaries of the metals are found in certain cavities termed metalliferous veins; which are separations in the continuity of rocks, of a determinate width, but extending indefinitely in length and depth, and more or less filled with metallic and mineral substances of a different nature from that of the masses they traverse. These natural stores of hidden treasures are not confined to any epoch of formation, nor to any tracts of country, although most frequent in beds that form mountain elevations, and in the oldest rocks. I have already mentioned (page 276), that veins of iron, copper, arsenic, silver, and gold, occur in

* The general reader will find an interesting account of M. Fournet's theory in Jameson's Edinburgh Journal, No. xlvii. p. 3.