

similar structure prevails when argillaceous beds are found in contact with lavas. It is also observed that where slate rocks have been exposed to a still greater degree of igneous action, the metamorphosis is more complete; as, for instance, when granite has been erupted in a state of fusion into fissures and veins of schist. The greywacké is evidently an indurated conglomerate, for it occurs in every intermediate state, from that of a compact rock to a loose aggregate of water-worn materials.

The numerous metalliferous veins in the slate system are either fissures into which mineral matter has sublimed, or cavities that appear to have been formed in the rock itself, and into which the metal has been introduced by segregation.

8. THE METAMORPHIC, OR PRIMARY ROCKS.— (Pl. VII. figs. 10—20; Pl. IX. fig. 11.) We have at length passed the boundary which separates the animate from the inanimate world, and have entered upon those regions of geological research, in which all traces of organized beings are lost.

The primary (see pp. 16, 196,) or metamorphic rocks, so called from the supposition that they have been changed or metamorphosed by igneous agency since their original formation, are divided into two natural groups. 1st. Those rocks which, although of a crystalline structure, and destitute of organic remains, yet exhibit traces of stratification, and therefore must originally have been formed by sedimentary deposition; and 2dly, those which