wick (not, however, as free from exception), that in one particular class of rocks the slaty Cleavage *never* coincides with the Direction of the strata.

The phenomena of metalliferous veins may be referred to, as another large class of facts which demand the notice of the geologist. It would be difficult to point out briefly any general laws which prevail in such cases; but in order to show the curious and complex nature of the facts, it may be sufficient to refer to the description of the metallic veins of Cornwall by Mr. Carne;[1] in which the author maintains that their various contents, and the manner in which they cut across, and *stop*, or *shift*, each other, leads naturally to the assumption of veins of no less than six or eight different ages in one kind of rock.

Again, as important characters belonging to the physical history of the earth, and therefore to geology, we may notice all the general laws which refer to its temperature;—both the laws of climate, as determined by the *isothermal lines*, which Humboldt has drawn, by the aid of very numerous observations made in all parts of the world; and also those still more curious facts, of the increase of temperature which takes place as we descend in the solid mass. The latter circumstance, after being for a while rejected as a fable, or explained away as an accident, is now generally acknowledged to be the true state of things in many distant parts of the globe, and probably in all.

Again, to turn to cases of another kind: some writers have endeavored to state in a general manner laws according to which the members of the geological series succeed each other; and to reduce apparent anomalies to order of a wider kind. Among those who have written with such views, we may notice Alexander von Humboldt, always, and in all sciences, foremost in the race of generalization. In his attempt to extend the doctrine of geological equivalents from the rocks of Europe[2] to those of the Andes, he has marked by appropriate terms the general modes of geological succession. "I have insisted," he says,[3] "principally upon the phenomena of *alternation*, *oscillation*, and *local suppression*, and on those presented by the *passages* of formations from one to another, by the effect of an *interior developement*."

The phenomena of alternation to which M. de Humboldt here refers are, in fact, very curious: as exhibiting a mode in which the transitions from one formation to another may become gradual and insensible,

[1] *Transactions of the Geol. Soc. of Cornwall*, vol. ii.

[2] *Gissement des Roches dans les deux Hémisphères*, 1823.

[3] Pref. p. vi.