

§ 1. Crystalline, or Lavas

While the underground course of a protruded mass of molten igneous rock has widely varied according to the shape of the channel through which it proceeded and in which, as in a mold, it solidified, the behavior of the rock, once poured out at the surface, has been much more uniform. As in modern lava, the erupted mass has rolled along, varying in thickness and other minor characters, but retaining the broad general aspect of a lenticular bed or sheet. A comparison of such a bed with one of the intrusive sheets already described shows that in several important lithological characters they differ from each other. An intrusive sheet is closest in grain near its upper and under surfaces. A contemporaneous bed or true lava-flow, on the contrary, is there usually most open and scoriaceous. In the one case, we rarely see vesicles or amygdaloids; in the other they often abound. However rough the upper surface of an interbedded sheet may be, it never sends out veins into, nor incloses portions of, the superincumbent rocks, which, however, sometimes contain portions of it, and wrap round its hummocky irregularities. Occasionally it may be observed to be full of rents, which have been filled up with sandstone or other sedimentary material. These rents were formed while the lava was cooling, and sand was subsequently washed into them. Examples of this structure abound among the porphyrites of the volcanic tracts of the Scottish Lower Old Red Sandstone. The amygdaloidal cavities throughout an interbedded sheet, but more especially at the top, often present an elongated form, and are even pulled out into tube-like hollows in one general direction, which was obviously the line of movement of the