

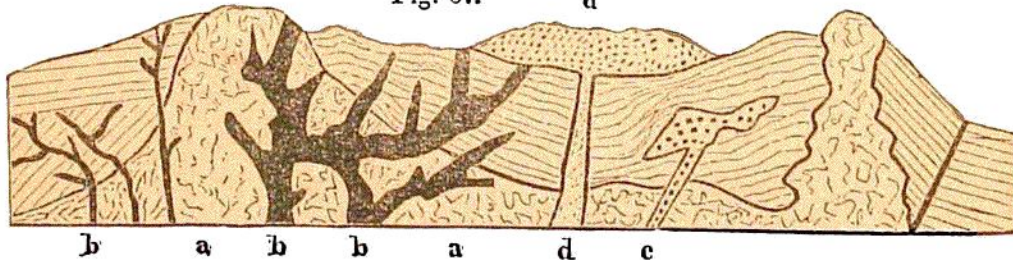
or more usually from aqueo-igneous fusion. But the theory will be more fully stated in the Section on Metamorphism.

*Amount of Unstratified Rocks.*—Unstratified rocks do not probably occupy one-twentieth part of the earth's surface. In Great Britain they do not cover a thousandth part of the superficies of the island. In Massachusetts, they occupy less than a quarter of the surface.

But there is reason to suppose that these rocks occupy the internal parts of the earth to a great depth, if not to the centre; over which the stratified rocks are spread with very unequal thickness, and sometimes are entirely wanting.

Fig. 36 will convey a better idea than language, of the relative situation of the two classes of rocks. The different groups of stratified rocks are seen resting upon each other in successive order, and the whole upon the unstratified series. Granite is represented as the foundation, but intrusive masses of syenite and porphyry, of granite, of trap, and lastly of lava, are shown to have successively pushed up from beneath the granite, and spread themselves over the surface. A variety of granite is seen rising to the top of the Mesozoic, trap to the top of the Mesozoic, slightly lapping over upon the Tertiary; and finally the lava comes up from the very bottom of the whole, and spreads itself over the Alluvium. Although this is not a section of any particular portion of the earth's crust, it will give a correct idea of the relative situation of the two great classes of rocks, and the reason why the unstratified rocks occupy the whole of the interior of the earth, while they barely reach the surface. We shall refer to this section again after stating the names of the successive formations.

Fig. 37. d



In addition to the last more general figure, we add Fig. 37, specially devoted to the unstratified rocks.

*a, a*, Irregular masses beneath the stratified rocks.

*b, b*, Veins (the black irregular lines) crossing both kinds of rocks.

*c*, Irregular beds between strata.

*d*, Overlying mass. *e*, A mass injected forcibly, thereby uplifting the strata upon both sides, and causing them to break at *f, f*.