

impressed by the previously formed crystals of felspar and mica.

Nevertheless, the degree of infusibility of the ingredients must be allowed to have a considerable influence in determining the order of crystallisation ; because, in the first place, no crystal can be formed at a heat sufficient for its entire fusibility ; and, 2dly, the action of heat seeming to be directly opposed both to elective attraction and the force of cohesion, if the fusing points of the materials be very unequal, the refractory substance may be collected together at a heat too great to permit any other part of the compound to solidify.

However, as in real solution and fusion we must in general suppose the materials resolved into their atomic constituents, the former state of things seems likely to be most common ; and we ought in consequence to expect that a portion of the most abundant substance should remain till the last, and appear as a homogeneous enveloping base, whether crystallised or not.

This is remarkably the case with granite, which appears to have been once a melted fluid, consisting of the ingredients of felspar and mica, with an excess of silica ; and this often remains not exactly as an enveloping paste, but in detached and irregular masses, filling the vacuities between the crystals of felspar and mica.

The *rate of cooling* is shown by Mr. Watt's experiments to have a most decided influence on the ultimate condition of earthy masses solidified from igneous fusion ; the degree of pressure under which the solidification happens is also influential, by introducing *a new force*, to modify the relative molecular attractions. Of this sir James Hall's experiments on powdered limestone offer a satisfactory proof. Under a pressure which prevents the escape of its carbonic acid, limestone undergoes fusion, and assumes different degrees of consolidation and crystallisation, according *to the pressure*.

The principal products of volcanic action are known to us in the form of slender lava currents, and scattered scoria and ashes, which are all cooled and solidified *in*