

SECTION V.

*Experiments on the fusible and infusible Proportions
of Simple Earths.*

AS the fusibility of simple earths when mixed together in certain proportions, while those earths singly taken are infusible, forms one of the most surprising phænomena in natural philosophy, and one of the most important grounds of specific distinction among earths and stones in mineralogy, I have taken the pains of ascertaining, with more accuracy than has already been practised, the proportions and degrees of heat at which it takes place (many of which had never before been tried), and also the fusibility of mixtures in which an earth is introduced that never before had been essayed. These experiments are also productive of two capital advantages: 1. They lead to the knowledge of the composition of some minerals, of whose analysis we are as yet ignorant; and, 2dly, they serve as a test of the analysis already made; for it is plain, that analyses that assign a *fusible proportion* of ingredients to an infusible stone or earth, or an *infusible proportion* to one that is fusible, must be erroneous.

To promote these purposes as far as possible, it is necessary to introduce and set forth not only my own experiments, but all those of my prede-

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