and *e*, *e*, *e*. Spheres so endowed will aggregate readily, as in Fig. 4, ***E***, to *e*, and ***M***, to *m*, but in no other way; and thus instead of a single line, we obtain a plate of molecules, one in thickness.* To form the third dimension, or to constitute a solid; it is necessary to assume the molecules as in Fig. 5, to be possessed not only of the attractive points ***E***, ***E***, ***E***, and *e*, *e*, *e*, ***M***, ***M***, ***M***, and *m*, *m*, *m*, but also of the attractive points ***M′***, ***M′***, ***M′***, and *m′*, *m′*, *m′*, (the point *m′* being supposed to be opposite to the point ***M′***, and out of sight). Molecules so endowed will readily combine as in Fig. 6, and form a cube, or some figure obviously deducible from it, but in no other manner: and in this

Fig. A.

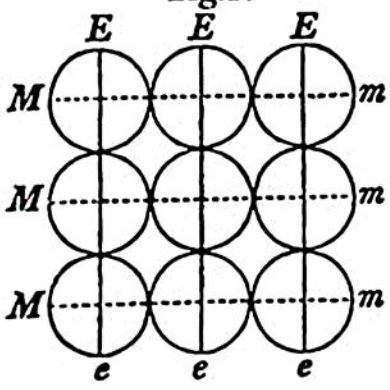


Fig. 5.

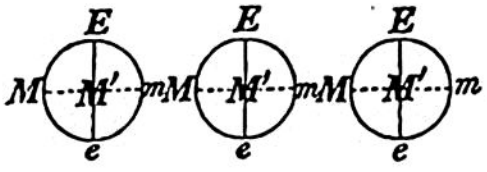
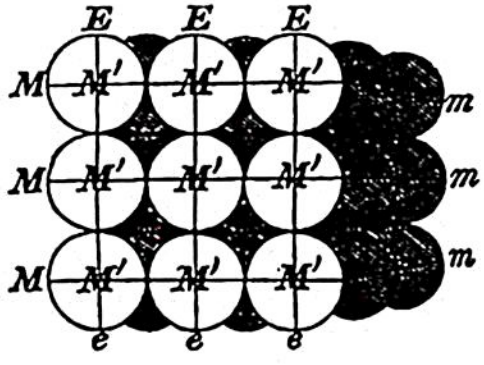


Fig. 6.



* Here it is to be observed that the similar poles ***E***, ***E***, and *e*, *e*, of each pair of molecules being supposed to be repellent within certain limits, as will hereafter be explained; their absolute contact is prevented, and the two molecules are balanced, as it were, between the two opposing and the two attracting forces. The consideration of forces operating in these, and in the other modes, subsequently mentioned, present some highly interesting and novel objects of research for the mathematician.