All kinds of matter are not attracted with the same force, but every particle exercises, as it were, a determined choice, always combining with one kind of matter in preference to another. Thus, for instance, a compound, whatever its elements may be, which we will suppose to be two, is the result of chymical attraction; but the affinity existing between the parts may not be so powerful as it would be if exercised between one of these and some third body. If, then, the compound be presented to this third substance, the process of decomposition and composition will be evinced at the same moment. The union of the two combined elements will be destroyed, and one of them will attract the third principle, producing a substance different from that of which it was before a part.

But still more complicated changes may be produced. Two compounds may be presented to each other of such a nature that one of the elements of each may have a greater affinity for an element of the other than it has for that with which it is combined. When this happens, a double decomposition and recomposition must necessarily be produced. Thus, if a solution of nitrate of potash be poured into a solution of sulphate of ammonia, this double decomposition is effected. The sulphuric acid leaves the ammonia and joins the potash, the nitric acid leaves the potash and unites with the ammonia, thus producing two new substances, the sulphate of potash, and the nitrate of ammonia.

The laws which govern the combination of bodies in small masses assist us in explaining the composition and origin of those substances which constitute the superficial covering of the earth. The chymist does but mimic in his laboratory the operations of nature; and the laws which govern the composition and decomposition of compounds in one case are equally applicable in the other. In our examination of these laws, we have been guided by a hope of explaining with the more precision the causes to which we may attribute the variety of forms, states, and composition possessed by matter as it exists in nature. If the surface of the earth has been constantly subject to changes effected by the agency of water and heat, it is evident that chymical action must have been often produced. In rocks universally acknowledged to have had an igneous origin, minerals, which are but the products of the terrestrial laboratory, are found; and