

which the Regular Solids are assigned as the forms of the Elements of which the Universe is composed. This curious branch of mathematics, Solid Geometry, had been pursued with great zeal by Plato and his friends, and with remarkable success. The five Regular Solids, the Tetrahedron or regular Triangular Pyramid, the Cube, the Octahedron, the Dodecahedron, and the Icosahedron, had been discovered; and the remarkable theorem, that of regular solids there can be just so many, these and no others, was known. And in the *Timæus* it is asserted that the particles of the various elements have the forms of these solids. Fire has the Pyramid; Earth has the Cube; Water the Octahedron; Air the Icosahedron; and the Dodecahedron is the plan of the Universe itself. It was natural that when Plato had learnt that other mathematical properties had a bearing upon the constitution of the Universe, he should suppose that the singular property of space, which the existence of this limited and varied class of solids implied, should have some corresponding property in the Universe, which exists in space.

We find afterwards, in Kepler and others, a recurrence to this assumption; and we may say perhaps that Crystallography shows us that there are properties of bodies, of the most intimate kind, which involve such spatial relations as are exhibited in the Regular Solids. If the distinctions of Crystalline System in bodies were hereafter to be found to depend upon the chemical elements which predominate in their composition, the admirers of Plato might point to his doctrine, of the different form of the particles of the different elements of the Universe, as a remote Prelude to such a discovery.

But the mathematical doctrines concerning the parts and elements of the Universe are put forwards by Plato, not so much as assertions concerning physical facts, of which the truth or falsehood is to be determined by a reference to nature herself. They are rather propounded as examples of a truth of a higher kind than any reference to observation can give or can test, and as revelations of principles such as must have prevailed in the mind of the Creator of the Universe; or else as contemplations by which the mind of man is to be raised above the region of sense, and brought nearer to the Divine Mind. In the *Timæus* these doctrines appear rather in the former of the two lights; as an exposition of the necessary scheme of creation, so far as its leading features are concerned. In the seventh Book of the *Polity*, the same doctrines are regarded more as a mental discipline; as the necessary study of the true philosopher. But in both places these mathematical