calcspar may be placed with one of its obtuse corners uppermost, so that all the three faces which meet there are equally inclined to the vertical line. In this position, every derivative face, which is obtained by any modification of the faces or edges of the rhombohedron, implies either three or six such derivative faces; for no one of the three upper faces of the rhombohedron has any character or property different from the other two; and, therefore, there is no reason for the existence of a derivative from one of these primitive faces, which does not equally hold for the other primitive faces. Hence the derivative forms will, in all cases, contain none but faces connected by this kind of correspondence. The axis thus made vertical will be an Axis of Symmetry, and the crystal will consist of three divisions, ranged round this axis, and exactly resembling each other. According to Weiss's nomenclature, such a crystal is "three-and-three-membered."

But this is only one of the kinds of symmetry which crystalline forms may exhibit. They may have *three axes* of complete and *equal* symmetry at right angles to each other, as the cube and the regular octohedron;—or, *two axes* of equal symmetry, perpendicular to each other and to a *third axis*, which is not affected with the same symmetry with which they are; such a figure is a square pyramid;—or they may have *three* rectangular *axes*, all of *unequal* symmetry, the modifications referring to each axis separately from the other two.

These are essential and necessary distinctions of crystalline form; and the introduction of a classification of forms founded on such relations, or, as they were called, *Systems of Crystallization*, was a great improvement upon the divisions of the earlier crystallographers, for those divisions were separated according to certain arbitrarily-assumed primary forms. Thus Romé de Lisle's fundamental forms were, the tetrahedron, the cube, the octohedron, the rhombic prism, the rhombic octohedron, the dodecahedron with triangular faces: Haüy's primary forms are the cube, the rhombohedron, the oblique rhombic prism, the right rhombic prism, the rhombic dodecahedron, the regular octohedron, tetrahedron, and six-sided prism, and the bipyramidal dodecahedron. This division, as I have already said, errs both by excess and defect, for some of these primary forms might be made derivatives from others; and no solid reason could be assigned why they were not. Thus the cube may be derived from the tetrahedron, by truncating the edges; and the rhombic dodecahedron again from the cube, by truncating its edges; while the square pyramid could not be legitimately identified with the derivative of any of these forms; for if we were to