From the definition of crystal as an arrangement of atoms that possesses a discrete group orthogonal transforms with a finite independent domain it follows that crystals can grow only in spaces of constant curvature, i.e. in Euclidean space (usual crystals), spherical space (fullerenes) and hyperbolic space (quasicrystals, Galiulin, Crystallography Reports, 1994, v.39, pp.517-521). The

Supreme Crystallography considers all three possibilities of crystal states of the matter. Two extra spaces are locally Euclidean, i.e. in small domains they are infinitesimally distinguishable from an Euclidean space. Therefore in the first stages of the growth the crystal can be formed according to any of three geometries. If its inner geometry not connect with geometry of the space the crystal stops in its growing when it reach some size and would remain in a nucleation stage. Probably, the mineralogical dust that, according to A.P.Khomjakov (Proceedings of the Russian Mineral. Soc. 1994, 123, N4, p.403) has become the main supplier of new mineral types, consists of particles of this kind. There will be discovered an infinity of such types since there are infinite number of space groups in spaces of constant non-zero curvatures.

If the inner geometry of a crystal is Euclidean, then, because of non-zero curvature of the space, dislocations are formed and the crystal breaks up into blocks. Crystal structures with non-Euclidean metrics can be separate morphologically. Concave, plane, or convex surface of dust particles might be an indicator of their Euclidean metrics can be separate morphologically. Concave, plane, or convex surface of dust particles might be an indicator of their Euclidean metric. Dislocation of non-zero curvature of the space, dislocations are formed. The crystal breaks up into blocks. The crystal structure can be formed according to any of three geometries. If its inner geometry not connect with geometry of the space the crystal stops in growing when it reach some size and would remain in a nucleation stage. In the first stages of the growth the crystal can be formed according to any of three geometries. If its inner geometry not connect with geometry of the space the crystal stops in its growing when it reach some size and would remain in a nucleation stage.