



The crystal in all its varied forms

A mineral can have many different crystalline forms. The champion in this regard is calcite or calcium carbonate (CaCO_3), the main constituent of limestone.



Calcite in scalahedron form © Coll. Muséum d'Histoire Naturelle de Grenoble

Calcite, in all its multiplicity

Calcite is one of the commonest minerals on earth - but fascinating for all that! It holds the record for having the highest number of distinct forms. Haüy described nearly 150 of these; Palache recorded 630 and Goldschmidt 2544. These forms are sometimes classed in four main categories: rhombohedra, prisms, scalahedra and bipyramids.

Faces, growth rates, clusters...

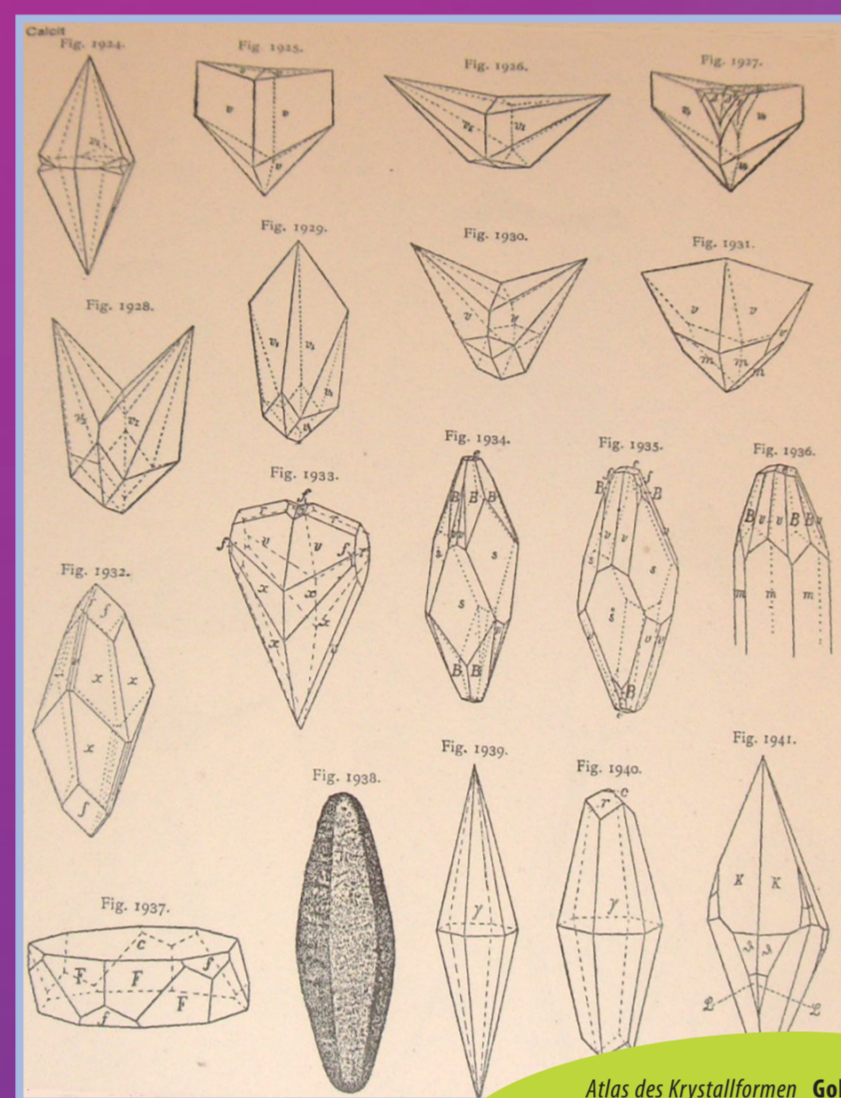
The different faces of a crystal have different rates of growth. These rates depend on the structure of the crystal, and also the conditions of growth, such as temperature, pressure and impurities in the composition of the mother liquid. The forms generated may or may not be randomly associated. All of which results in an extraordinary diversity.



Calcite or Iceland Spar © Coll. Muséum d'Histoire Naturelle de Grenoble

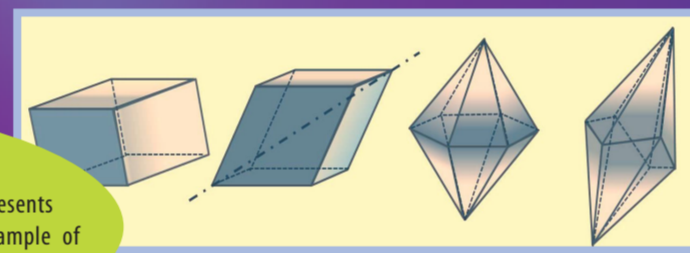


Concretion of calcite, Baia Mare, Roumanie © Coll. Muséum d'Histoire Naturelle de Grenoble



Collection des Minéraux © UPMC-Jussieu.

Atlas des Krystallformen Goldschmidt
A plate from Goldschmidt's Atlas, in which he presents drawings of 2544 different forms of calcite. Example of the four principle volumes: rhombohedron, prism, scalahedron and bipyramid.



Calcite in a stalactite © Coll. Muséum d'Histoire Naturelle de Grenoble



Sandy calcite, Fontainebleau, Seine et Marne, France © Coll. Muséum d'Histoire Naturelle de Grenoble



Siliceous calcite sculpture in «gogottes», Saint Marcellin, Isère, France © Coll. Muséum d'Histoire Naturelle de Grenoble