CRYSTALS.

8. The four-sided prism, with edges inclined obliquely to the base, the base being either a rectangle, a rhomb, or merely a parallelogram.

9. The regular six-sided prism,

10. The double six-sided pyramid.

He also grouped all these forms in a general way thus: -

1. Figures bounded by parallelograms.

2. Figures bounded by eight triangles.

3. The regular tetrahedron.

4. The regular six-sided prism.

5. The double six-sided pyramid.

Haüy was let by his study of cleavage to frame a theory regarding the *structure* of crystals and to discover a second great law governing their formation, namely the one which connects the secondary faces with those of the primitive form.

He found that the kernels which he obtained by cleavage could be split up, apparently indefinitely, into smaller fragments of the same shape, and, not believing that this process could go on to infinity, came to the conclusion that every crystal of the same substance could, theoretically at least, be cleaved into minute bricks of a definite size and shape though two small to be separately visible, and therefore that with these bricks a crystal possessing any of the forms in which the particular mineral occurs, might be built up.

As the simplest illustration take the case where the bricks are little cubes The conditions to be produced are that the built-up crystal must possess cleavage, and at all its parts the faces obtainable by cleavage are to have the same directions, also that its outer surface must consist of a series of plane faces.

A cube composed of these little bricks could be increased indefinitely in size by adding layers of these bricks to each of its faces. Conversely, it might be decreased in size by taking away the layers.

But suppose that the decrease takes place by the regular subtraction of one or several ranges of bricks in each successive layer; theory, by calculating the number of these ranges required for a particular form, can represent all known forms of crystals and also indicate *possible* forms for a particular mineral which may not yet have been observed in th