



### Reading Snow Crystals

➤ SNOWFLAKE studies are easy to conduct. The only requirement is that you stay out-of-doors in a snowstorm while you are doing it, and that you hold your breath if you look at them at all closely with a hand lens. They are more delicate than the flowers of Fairyland; if any warmth touches them they vanish.

Individual snow crystals are almost always flat and six-sided; but within these limits they show infinite variation. Indeed, it is probable that among the billions of billions of snow crystals that have fallen in the long geological history of the world no two have ever been exactly alike. Certain it is that no human observer has ever found two of them identical.

There are, however, certain general types. If snow is falling on a very cold, rather dry day, the individual crystals are likely to be rather small, and severely plain in outline—straight-sided and with little ornamentation. Such crystals are usually formed at great heights, in air containing relatively small percentages of moisture, so that they grow slowly. High cirrus clouds commonly contain crystals of this kind.

On the other hand, if it is not very cold and the air is rather moist, you are more likely to find larger crystals in the form of six-pointed stars, often of very intricate and beautiful filigree patterns. These crystals, states Prof. W. J. Humphreys of the U. S. Weather Bureau, are normally formed at lower cloud levels with high humidities.

There is, of course, no sharp division between the two classes, as there are no sharp dividing lines anywhere in the great fluid realm of the weather. Instead, you will find all kinds of intermediate forms, depending on the elevation of the clouds where they were formed and the degree of humidity.

Not all snow crystals are of the flat, plate-like type. There are also rod- or needle-shaped crystals, which are also found in very lofty cirrus clouds. These do not often descend to earth, except on mountaintops or in the Far North. Once in a while you will find tiny pyramids of ice, which are still another snow-crystal type. Occasionally also you will see a compound crystal—a rod-shaped one that has had a pair of flat plates formed

at its ends, forming the so-called dumb-bell or cuff-link pattern.

Many snowflakes, especially in wet storms, are formed by the sticking together of several crystals, with outlines all jumbled and obscure. If you run into this kind, better give it up for the day; they aren't at all satisfactory objects for study.

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#### GENERAL SCIENCE

### Smithsonian Institution Converts to War Projects

➤ SMITHSONIAN Institution has converted to war work in every branch possible, Dr. Charles G. Abbot, secretary, reported to the Board of Regents of the Institution at their annual meeting in Washington. The staff has answered hundreds of requests for technical information from the Army, Navy and other war agencies.

Laboratories and instrument shops are working nearly full time on war projects. Anthropologists furnish information on the strategic areas and their peoples, Dr. Abbot stated.

Geologists of the Institution are investigating mineral resources in the United States and Mexico; ores and minerals are analyzed for war purposes.

From the field of war operations, biologists receive strange plants and insects for identification.

The department of engineering and industries supply authorities with extensive information on woods, fibers and their substitutes.

Dr. Abbot also reported that the Institution is engaged in several large scientific projects in the field of Latin-American cooperation.

Besides these war activities, Smithsonian continues a number of projects which will be of value in the peace to come.

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