

angles are always the same (60°). This is the chief peculiarity of the hexagonal system of crystallization, and there are other substances, such as calc spar, which crystallize in this system, besides common ice and snow. The picture also shows:—

2. When broken into pieces, the minute fragments have smooth faces, from which reflexions can take place, and the pieces also have axes of unequal length; in other words, the fragments are very small prisms of ice.

These small prisms, spread thinly in wide sheets in the higher air, as they often are, make halos of reflexion, and also halos of refraction, which sometimes all appear together in the combined form shown in the ordinary textbook figures, but the parts of which have really nothing whatever to do with each other, being formed in the two different ways. The halos of refraction result from the combination of rays of light refracted to the same extent through the small prisms with the same angle (60°), all refracting the same amount whatever their sizes may be. And the halos of reflexion result from the combination of small images of the sun or moon all reflected off the faces of the small prisms. Our work in this paper will chiefly amount to an analysis of the combination halo into its different parts.

When the light of the sun or the moon is refracted through fog, i.e., through small particles of water, instead of through snow particles, the optical effect is entirely different from what we see through the snow crystals. Through fog the sun's light or the moon's light makes what is known as the corona, which is likewise a spectrum, circular, but much wider, and also closer to the orb than the one that results from snow crystals. One often sees a corona around an electric street light at night, especially in damp weather.

In the higher parts of the air there can be only the finest snow dust, the larger snowflakes being confined to the lower air. We see this fine snow dust in the cores of hailstones when broken open by a hammer, and in the fine snow drifted into wooden buildings through small crevices that will not admit the larger snowflakes; and also in the blizzards that occur in the dry climate of