

## GIGANTIC SNOWFLAKES.

About 4:30 p. m. on January 10, 1915, Berlin experienced a brief fall of snow during which snowflakes of very considerable dimensions occurred simultaneously with those of more usual size. On this occasion a large number of snowflakes had diameters of 8 to 10 centimeters, and these giant flakes fell with both a greater speed and more definite paths than did the smaller flakes. They did not have the complicated, fluttering flight of the latter. In form the great flakes resembled a round or oval dish with its edges bent upward. During flight they rocked to this side or that, but none were observed to turn quite over so that the concave side became directed downward. The temperature was but little above freezing.

Dr. Baschin refers in his report<sup>1</sup> to analogous occurrences observed in 1887. On January 7 of that year, at Chepston, England, very large flakes were observed by E. J. Lowe<sup>2</sup> from 12:12 p. m. to 12:20 p. m. At that time the temperature was +0.3°C. and the relative humidity 100 per cent. At first the flakes were 6½ centimeters, then 7 centimeters, and finally 9 centimeters in length; and even larger ones were observed to fall outside the cooled dish in which the observer was attempting to catch them. The weight of 10 flakes varied between 1.1 grams and 1.4 grams; in water content one flake yielded 14 drops, a second yielded 15 drops, and another 16 drops. A falling flake 9 centimeters long, 6.5 centimeters wide, and about 4 centimeters thick, was compressed to 0.6 centimeter thickness by its own impact upon the little glass dish that caught it. The snowflakes under consideration were not composed of fragments, but of hundreds of undamaged crystals set together at all angles in a manner which Lowe illustrated. He believed that he could observe the greater flakes exerting an attraction on the small ones; but in part he explained the increasing size of the big flakes by their rapid fall whereby they could overtake a large number of the small flakes. Mr. Lowe also reported that he had seen such large flakes but once before, viz, in January, 1838, when the flakes had attained a length of 5 centimeters (2½ inches).

In the same winter of 1887 very large snowflakes were reported<sup>3</sup> as having fallen on January 28, near Matt. Coleman's ranch at Fort Keogh, Mont. In this

case, which is not recorded in the MONTHLY WEATHER REVIEW for that year, the great flakes were described as being "larger than milk pans" and measuring 38 centimeters (15 inches) across by 20 centimeters (8 inches) thick. A mail carrier who was caught in the storm verified the occurrence. These tremendous flakes made patches all over the fields within an area of several square miles.

On January 24, 1891, during one of the heaviest snowstorms known up to that time in Nashville, Tenn., very large snowflakes were observed there. "Many flakes were as large as a dollar (3.8 centimeters) and some nearly as large as a saucer (14 centimeters)."<sup>4</sup>

On March 25, 1900, Richmond, Va., also enjoyed the spectacle of falling snowflakes of very large size.<sup>5</sup> On the morning of that date Richmond had cloudy weather with a fresh, chilling wind from the northeast. The temperature rose slowly during the forenoon, and at 1:17 p. m. a light rain began falling. Soon sleet accompanied the rain, and later the rain ceased so that sleet alone fell. Some of the icy particles were nearly cubiform, measuring about one-fourth inch (0.64 centimeter) either way and mixed with them was the usual sleet—small spheres of frozen rain. At 5:25 p. m. moist snow fell with sleet. There was nothing unusual about the first falls of flakes, but the sleet immediately diminished in volume and as this occurred the flakes increased in size until they attained unusually large dimensions. They were of irregular shape, usually oblong; several were observed whose greatest diameters could hardly be covered by a teacup (perhaps about 7.6 centimeters). Some of these flakes were caught upon a piece of dry wood and examined; in every instance they showed the center to consist of a soft mass of snow about one-half inch (1.3 centimeters) in diameter, while the outer edges were thin, as though they were separate flakes that had attached themselves to the central mass while it was falling. The greater weight of the center caused the larger flakes to assume the form of an inverted cone as they fell, the outer, thinner edges being bent upward by the resistance of the air. Three of the large flakes were caught in a bowl and when melted yielded nearly a tablespoonful (14½ cubic centimeters?) of water. The flakes were widely separated from one another and did not obscure the vision when looking upward toward the sky.—[C. A., jr.]

<sup>1</sup> Otto Baschin in *Meteorologische Zeitschrift*, Feb. 1915, 32: 93.  
<sup>2</sup> E. J. Lowe. Snowstorm of January 7, 1887. *Nature*, London, 1887, 35: 271.  
<sup>3</sup> A letter in the "New York World" of Feb. 14, 1887, quoted by Samuel Lockwood in *Nature*, London, 1887, 35: 414.

<sup>4</sup> See MONTHLY WEATHER REVIEW, January, 1891, 19: 11.

<sup>5</sup> See MONTHLY WEATHER REVIEW, April, 1900, 28: 156.