

### Explosive Hail.

On the afternoon of November 11, 1911, there was a brief storm of explosive hail at this place.

The morning had been unseasonably warm; about noon there were the usual signs of a coming thunderstorm—heavy cumulo-nimbus clouds with a gusty wind—which began about 2.30 p.m. with a slight shower of heavy rain-drops; shortly afterwards there were two or three flashes of lightning and thunder, followed by a fall of large hail-stones, which on coming in contact with the windows or walls or pavement in many instances exploded with a sharp report, so loud as to be mistaken for breaking window panes or a pistol shot. As the hail fell, the fragments sprang up from the ground and flew in all directions, looking like a mass of "popping corn" on a large scale.

The fall lasted two or three minutes, about half the hailstones being shattered, the ground in some places being nearly covered white with the stones and fragments.

Of the unbroken stones, seventy were gathered. They weighed, roughly, 225 grams. A few were ellipsoidal, the longest axis about 25 mm. in length; most of them, however, were nearly spherical, and somewhat smaller, from 15 to 20 mm. in diameter.

Practically all of them contained a nucleus. In a few of the stones the nucleus was porcelain-like, raspberry-shaped, surrounded by almost colourless spherical layers of ice, for about five-sevenths of the diameter, and then a shell of porcelain-like, snowy ice.

A fair proportion of the stones showed, in addition to the spherical, a radiate structure, which was very apparent as the stones melted in a flat dish, showing the cross-section with great distinctness.

The writer noticed a similar fall of explosive hail about eighteen years ago at Lexington, Virginia. The stones in this fall were much smaller, and attention was directed to the stones by the peculiar way in which they seemed to rebound on striking the ground, which was also due on that occasion to their breaking into fragments, without, however, any noticeable explosion.

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December 27, 1911.

### THE BEGINNING OF ARCTIC EXPLORATION.<sup>1</sup>

THESE two great volumes take up the knowledge of the northern regions from the dawn of history, and starting from Homer they have only reached the voyage to Newfoundland of Gaspar Corte-Real in 1503. The reason for this is thus explained, not in the preface, but in the "Conclusion":—

"If we would discover how a watercourse is formed, from the very first bog-streams up in the mountain, we must follow a multitude of tiny rills, receiving one fresh stream after another from every side, running together into burns, which grow and grow and form little rivers till we come to the end of the wooded hillside and are suddenly face to face with the great river in the valley below.

"A similar task confronts him who endeavours to explore the first trickling rivulets of human knowledge; he must trace all the minute, uncertain, often elusive beginnings, follow the diversity of tributaries from all parts of the earth, and show how the mass of knowledge increases constantly from age to age, sometimes reposing in long stretches of dead water, half-choked with peat and rushes, at other times plunging onward in foaming rapids. And then he too is rewarded; the stream grows broader and broader, until he stands beside the navigable river."

Dr. Nansen takes us with him as he traces the head streams of the earliest knowledge of the north in the misty uplands of the past, and leaves us just where the historian can advance with some assurance. He points out how the early peoples had vague ideas of shadowy regions on the edge of the habitable world-

<sup>1</sup> "In Northern Mists: Arctic Exploration in Early Times." By Prof. F. Nansen, G.C.V.O. Translated by A. G. Chater. Vol. i., pp. xii+384; Vol. ii., pp. iv+416. (London: Wm. Heinemann, 1911.) Two volumes, 30s. net.

disc, and how, though now and again a voyager placed solid facts on record, such details as were current regarding the northern lands were for the most part a mixture of legend and myth. The writers who have dealt with the history of Arctic exploration hitherto have usually commenced with the search for the north-west and the north-east passages which supplied a powerful and intelligible motive for centuries of struggle. This record concludes before that motive came into play; but a book on the history of exploration without some clue of continuous human interest would be a weary chaos of random incidents, which no reader would willingly face, and Dr. Nansen finds a unifying clue in the persistent, romantic, and ever-hopeful search for the Fortunate Isles, which lay or drifted throughout the mistiest periods of history just on the verge of the known world. The guiding principle for the elucidation of the beginnings of exploration seems to be implied in this piece of psychology.

"For one thing, man's power of grasping reality varies greatly; in primitive man it is clouded to a degree which we modern human beings can hardly understand. He is



The conception of the northern and western lands and islands in Norse literature. From "In Northern Mists."

as yet incapable of distinguishing between idea and reality, between belief and knowledge, between what he has seen and experienced and the explanation he has provided for his experience."

Dr. Nansen proceeds to retell the old stories with this distinction always in his mind, and in the endeavour to separate fact from expectation he finds a way of escape from the clamour of the partisans who have so frequently made out the dim heroes of early voyages and their first chroniclers to be either paragons of veracity and precision or shameless and aimless liars. There is an appeal to the most authentic versions of the early narratives, many of which are given in these pages more completely than ever before in translation, and there is a minimum—we had almost said an absence—of controversial statements directed against the holders of contrary views.

It should be explained that the quotations from early authorities are all in translation, and the very interesting maps or portions of maps which are reproduced are translations also in so far as they are not facsimiles, but representations of the meaning of the maps, in many cases without the conventional repre-