

flow of the interior ice discharges itself." Continuing, he says, "Once fairly on the inland ice, a dreary scene meets the view. As far as the eye can reach, to the north and south, is this same great ice field, the only thing to relieve the eye being the winding black circuit of the coast line land, here infringing in little peninsulas on the ice, there the ice dovetailing in the form of a glacier, and now and then the waters of a deep fjord penetrating into the ice-field, its circuit marked by the black line of coast surrounding it on either side, the eastern generally being the ice wall of the glacier, the western being the sea." Concluding, he observes, "There seems every probability that in Greenland there is one continuous unbroken level field of ice, swaddling up in its snowy winding sheet hill and valley, without a single break for upwards of 1,200 miles of latitude, and an average of 400 miles of longitude, or from Cape Farewell to the upper extremity of Smith's Sound, and from the west coast of Greenland to the east coast of the same country, a stretch of ice-covered country infinitely greater than ever was demanded hypothetically by Agassiz in support of his glacier theory."

We have seen the inland ice-field emptied by the glacier; we now see the glacier relieving itself by means of the ice-berg, or ice-mountain as the word means, of which latter we now proceed to speak. The ice-berg is forced off from the parent glacier by the buoyant action of the sea from beneath, and not, as is commonly supposed by the mere power of gravity. The separation having at length taken place, the bergs which are of all forms and sizes, are driven out to sea by the off shore breezes, where they enter upon the final but most interesting stage of their existence. Occupying many centuries, perhaps, in their gradual march seaward from the head of the glacier, once the separation takes place, their existence is very brief, as they seldom, if ever, survive their first summer, that is, supposing, of course, they are driven far southward into the neighborhood of the warmer waters. Often, however, they will ground in the fjords whence they had their birth, and in this position remain for years, "only to be removed," as Professor Brown tells us, "by pieces breaking off from them, and thus lightening them, or forced off the bank where they have touched the bottom by the force of the displaced wave caused by the breaking off of a fresh berg." They are quickly borne away by the submarine currents, and after voyaging in calm and silent majesty for a few days, or sometimes weeks, the ice-bergs appear within the haunts of mariners, upon whose watchfulness and skill their presence makes extensive and incessant demands. They are frequently found in considerable numbers in the North Atlantic Ocean during the months of June, July and August, and, indeed, sometimes as late as September, but they are then not as numerous as in the former months. To the summer Atlantic voyager the chief feature of the passage across is the probable meeting with ice-

bergs. When the temperature suddenly changes from heat to cold, and discarded wraps and great coats are in immediate demand, the old salt and the experienced traveller are assured of the near presence of the ice mountain which is soon thereafter seen.

Regarded from whatever point of view, whether it be their origin, size, form or colors, ice bergs are objects of absorbing interest. Their origin has been already referred to, and now as to their size. The explorer Hayes, author of the "Open Polar Sea," calculated that a berg stranded in Baffin's Bay, in water nearly half a mile in depth, contained about twenty seven billion cubic feet of ice, and the entire mass must have weighed not less than two billion tons. Rink has calculated that about one-seventh of the bulk of an ice-berg is above water and six-sevenths below it. These are astonishing figures, and any statement the writer may make as to the size of bergs witnessed by himself will sound, to say the least, meagre in comparison with them. Still the reader must be given to understand that the above prodigious mass of ice whose size and weight were computed by Hayes was an exceptional monster. Ice-bergs have frequently appeared off the coast of Labrador and Newfoundland whose height has varied from fifty to three hundred feet, and the writer was informed of one whose length was more than half a mile, but at no point higher than fifty feet.

The ice-bergs exhibit all kinds of beautiful though fantastic forms, which alternately delight and awe the beholder; one appears as a mountain, whose rugged surface and stupendous heights glisten in the sunlight; another is suggestive of fairy land, with dome, minaret and laughing cascade; from the rugged surface of a third there perhaps arises a tall and graceful spire, whose beauty surpasses far the noblest conception of a Wren or a Scott; and so, as we proceed from one to the other of these beautiful glacier progeny, there is not a form, whether it be harsh or lovely, which nature can assume that we are not permitted to see and admire. Hayes thus writes of a group of ice-bergs seen by him off the coast of Greenland, which may be said to be the home of the ice-berg: "When viewed out of danger, this noble assemblage of ice-palaces—hundreds in number being seen from the end of Jakobshavn Kirke—was a magnificent sight; and the voyager might well indulge in some poetic frenzy at the view. The noonday heat had melted their sides; and the rays of the red evening sun glaring askance among them would conjure up fairy visions of castles of silver and cathedrals of gold floating in a sea of summer sunlight. Here was the Walhalla of the sturdy Vikings; here the city of the sun-god Freyr; Alfheim, with its elfin caves; and Glitner, with its walls of gold and roofs of silver; Gimle, more brilliant than the sun; Gladsheim, the home of the happy; and there, piercing the clouds, was Himelberg, the celestial mount, where the bridge of the gods touches heaven."