

To take an example not far from our own country:—Iceland is well known as a region of volcanic disturbance. In its neighbourhood a volcano burst forth in the year 1783, and produced an island bordered by high cliffs, while smoke and cinders were emitted from the interior. It was claimed by the Danish monarch, and dubbed Nyöe, or the New Island; but the sea reclaimed Nyöe, so that nothing remains but a reef of rocks some fathoms below the surface. Another small island was upheaved in the year 1830.

A volcanic cone appeared in 1811 near to the island of St. Michael's, one of the Azores, and gradually rose to the height of 300 feet; but it was in a short time washed away by the action of the waves.

A more noticeable instance is that of Graham's Island, thrown up in 1831 at a point in the Mediterranean some thirty miles from Sicily, and therefore within another well-known volcanic region. It seems to have risen gradually to a height of 200 feet, with a circumference of three miles. This was its maximum size; it then began to yield to aqueous action, and by the end of the year but a slight vestige remained above the sea-level. In a short time this also disappeared. Many islands, which are to us as permanent as the surrounding continents, exemplify the same structure, and point to the same mode of formation as the more transitory ones just alluded to. The Lipari Isles, north of Sicily, are of volcanic origin, and one of them, Stromboli, is still in a state of eruption, and has been so for ages; another volcano now emits only sulphureous vapours. This group was regarded in ancient fable as the abode of winds and tempests; and is celebrated by Virgil, at the opening of the "Æneid," as "the restless regions of the storm:—

"Where, in a spacious cave of living stone,  
The tyrant Æolus, from his airy throne,  
With power imperial curbs the struggling winds,  
And sounding tempests in dark prisons binds."

Barren Island, in the Bay of Bengal, and St. Paul's, in the Indian Ocean, exhibit a similar conformation.

Changes of level of a much more gradual kind than those which have now been detailed are in progress in some parts of Europe. The shores of the Baltic, it would seem, are undergoing a slow process of upheaval, while the western coast of Greenland is sinking; and doubtless, if observations were multiplied, these imperceptible movements would be found much more general than we might at first be inclined to suppose. These phenomena, at all events, form part of the great series of conservative and reparative agencies by which new land is continually being won from the ocean, and the balance of terrestrial nature maintained. Thus regarded, we gain an insight into the place and power of the earthquake and the volcano, and are able intelligently to recognise them as contributing to the "general good," though "partial evil" is incident to their operation.

#### SKATING IN HALIFAX, N.S.

DURING my short stay in Halifax, Nova Scotia, it was my good fortune to witness several very curious and certainly extraordinary sights. In January, 1859, we had, as usual, some very severe frost, but accompanied with heavy falls of snow, succeeded by rapid thaws and heavy rains. The wind afterwards shifted to the north, and then fell to a dead calm. The thermometers fell rapidly, until in the city they registered five degrees below zero, and in the citadel as low as fifteen degrees below zero, Fahrenheit. The result of this alternation of

snow, thaw, rain, and frost was, that the harbour was completely frozen from the head of Bedford Basin to George's Island, a distance of about twelve miles. Twice was the harbour frozen, and on the second occasion the ice was formed as smooth as a looking-glass.

For the information of those unacquainted with Halifax Harbour, I had better state that it is about twenty-five miles in length, with a depth varying from five to sixty fathoms; it contains several large and valuable islands, and altogether ranks as one of the finest havens in the world; the rise and fall of the tide never exceeds six feet, and averages from three to four feet only. The city stands on a peninsula formed by the north-west arm and the harbour itself. George's Island lies at the end of this peninsula, and commands the whole harbour, southward from the city, being surmounted by a small but formidable battery. From this little island to the Narrows is about three miles; at the Narrows the waters are suddenly contracted from 1,500 to 200 yards, and then again suddenly expand into the basin—a truly magnificent sheet of water, being nine miles long and eight miles wide. At the time of which I write, the whole of this vast sheet of water was frozen to a depth of six feet, and from the Narrows to George's Island to four and a half inches; the latter, as I have before stated, was frozen as smooth as ice could possibly be.

On a Wednesday morning the large ferry steamer plying between Halifax and Dartmouth was compelled to stop on account of the extreme frost, for the ice closed up behind her as she passed along. At eleven she stopped running, and at twelve I crossed her track, so rapidly had the water frozen.

All Halifax was out on the ice, on foot or skates, or in little sleighs or sledges, or "coasters," as they are termed by the natives. The sight was a magnificent one: this huge sheet of ice, with thousands of people running, walking, or skating; ladies being dragged about on their little sleighs; and all life, motion, and gaiety; a bright sun overhead, the ice smooth, black, and starred with innumerable crystals; the dark-green fir-trees fringing the banks, and on the western side the city with its churches, steeples, and citadel: altogether it was a spectacle which once seen could never be forgotten.

One old gentleman told me that he had seen the harbour frozen two or three times, but never smooth enough for skating. Necessarily, the freezing of so large a surface of salt water must be of very rare occurrence.

At this time a great trotting-match was got up and held on the basin. There were twenty-four horses and sleighs entered for the match, each sleigh drawn by one horse only. It was certainly a singular spectacle to see a sleigh-race on the very spot that one was accustomed to sail over in the summer: the horses, with their jingling harness and gaudy trappings; the drivers, each with his distinguishing colour; crowds of gaily-dressed ladies and talkative gentlemen; sounds of merriment on all sides mingling with those of the sleigh bells.

It may seem strange that ice formed on salt water is much stronger and tougher than that which is formed on fresh water; that is, taking the same thickness of ice in both cases. I remember on that Wednesday morning, I and about a dozen of my friends were all standing together on the ice, chatting about the beauty of the weather and the fine skating, when one of the party suggested that we should try the thickness of the ice; we bored a hole, and found that it was only one inch and a third. On making this discovery we separated with as much alacrity as possible, each man skating in a different direction. A man may skate over fresh-water ice of only one inch thickness, but it will not support

him if he stops; he will then inevitably get a "ducking." The ice in the harbour did not last long, but soon became spotted with ice-swamps; that is to say, became in places soft and spongy, rendering it somewhat dangerous to skate upon. This liability to decay with age is the great defect of salt-water ice; for whereas fresh-water ice becomes thicker and stronger with every day's frost, salt-water ice, after five or six days of frost, becomes soft, muddy, and spongy.

Before the harbour ice broke up I had the pleasure of witnessing rather a novel spectacle from its glittering surface. The mail steamer arrived from England; we were sitting by the fire when we heard the signal guns. Down we ran, and on to the ice, to see her come up. There was a full moon, a cloudless sky, and the great black hull of the Cunard boat loomed blacker and huger than ever in the moonlight, as she forced her way up the harbour, the ice curling up her bows like spray, lights gleaming from masthead, paddle-box and saloon. All the wharves were crowded with spectators, who, like ourselves, had come down to see how the mail-boat would get on in four and a half inches of ice; she did not seem to mind it much after she first struck, but steamed up at about four miles per hour. One of the passengers told me that when she first encountered the ice she stopped dead; they feared she had gone on shore when she began to crash and pound up the ice with her paddles; all below thought that it was thundering, and ran up on deck to see what was the matter. The following day she went on her way to Boston. She had come in on the western side of George's Island, she went out on the eastern side, thereby making as wide a sweep as possible, and so cutting up the ice and clearing the harbour.

When skating was no longer practicable in the harbour we adjourned to the lakes on the Dartmouth shore. These lakes are very beautiful in the winter; the contrast between the dark-green fir trees fringing their banks, and the white gleaming snow, was very striking. On these lakes one could, if so disposed, skate for forty miles, with the slight difficulty of having to go on shore and walk at the junctions of the different lakes, where, the current being rapid, the water does not usually freeze; but during this winter even these little straits were frozen hard and fast. The Haligonian winter is supposed to be entirely over by St. Patrick's Day (the 17th of March), though, when I left on the 24th, there was still a foot of snow on the ground. But then the winter of 58-59 was an exceptional one in the annals of Haligonian, not only for its rigour but for its variety.

#### A WORD ON THE EAST WIND.

THERE was a time with most of us when we neither knew nor cared from what quarter the wind blew—when we had not the remotest conception that the direction of the air-currents could concern us at all. Those were the days of childhood's happy ignorance; when we knew nothing of the contents of the human thorax beyond what others chose to tell us; when lungs, and liver and heart, were things we sometimes heard mentioned, but did not trouble our heads about, having very vague notions of their existence; when the stomach was only known by its cravings, and the nerves were a mystery intelligible only to elderly people. A blissful state of things that, more permanent, it would appear, among our ancestors than with the average of mortals now-a-days. The first practical idea about the east wind that a young fellow gets hold of is that it is good for

sliding and skating, because it locks up the canals and streams, and covers the ponds and ornamental waters with practicable ice. We can well recall the eagerness and the profound interest with which we used to watch the weather-cock on the church tower in our skating days, and the mortification, not to say disgust, with which we saw the brazen indicator veer spitefully southwards.

As we grow older we grow more conscious of the mysterious machinery within us, and the atmospheric conditions without us, and of the marvellous and ominous sympathy there is between the two. But if we are in average health it is long before we begin to quarrel with the east wind. For a time we love to face it, and even take it to our embrace, feeling that it is a mighty breath, strong to build up the stalwart frame and renew the energies of youth. We revel in it, and, rejoicing in the freshness it brings, and the vigour it imparts, can repeat with pleasure Mr. Kingsley's rhapsody in praise of the east wind.

But by-and-by we find it rather too much for us—just a *little* too boisterous and rude; and though we hardly confess to that much, we catch ourselves shirking its proffered embrace, shunting ourselves to the lee side of available shelter when it blows hard, and buttoning up to the chin when it must needs be encountered. Still, we *can* encounter it, and get the better of it too, in a brisk walk or a gay canter along the open downs; and we do so occasionally, perhaps pluming ourselves on our hardiness. But it may happen that we do it once too often, or without sufficient care, and then the east wind gets a grip of our breathing apparatus, and shows that he is master, by consigning us to the bed or the easy chair, to a slop diet and teetotalism—to the hot mustard "foots." When a man, verging, say upon the fifth age of Shakespeare, has had one or two experiences of this kind, it is truly marvellous to note how learned he becomes upon the subject of the east wind. There is not the slightest occasion for *him* to look at the weather-cock for information; he has an index within him—a sort of weather-gauge—that tells him when it is coming, as sure as a gun; he scents it afar, even while sitting by his fire-side; can tell of its advent twenty, thirty, forty hours before its arrival; he will wake up in the night and say to his wife, "The wind is getting into the east," and, turning under the blankets, go to sleep again to dream of it and the plagues it may bring with it. He does not indorse the poet's invocation—

"Hail to thee, north-easter!"

Rather he dreads its approach, and only hopes to have done with it as soon as possible.

Here in London the east wind brings with it a characteristic shoal of phenomena more varied than agreeable. First, there are the swarms of ragged beggars dodging the police at every corner, and whining at you for coppers; or, in the guise of street traders, thrusting a box of lucifers in your face, and shiveringly begging for custom. Impostors, of course, you will say; and yet there is reality enough in their trembling frames, their half-clad limbs, their "looped and windowed raggedness," and the famine that gleams in their sunken eyes; for the east wind, that "whets the hunger of the pike," has whetted theirs; the fresh air, which is so good to raise an appetite, has raised theirs to the raging point, and they want the means of assuaging it. Then there are the frozen-out workers of various classes—the gardeners, with their symbolic vegetables borne aloft—the builders' labourers—the mudlarks, tide-waiters, and watermen of the Thames—on each and all of whom the east wind has laid an embargo, delivering them over for a time to the tender mercies of the public.