

GREAT STORMS.



HE loss of twenty-eight men out of the gallant thirty who manned the two life-boats, in the noble endeavour to save the crew of the German barque *Mexico* on Formby Sands, on the night of December 9, 1886, will long be remembered in connection with the severe gale which the Meteorological Office signalled as approaching our western coasts on the night of Tuesday, the 7th.

Wednesday morning showed that the storm-area was one of the most remarkable of the many we experience, the barometer having fallen to 27.58 inches at Belmullet, on the north-west coast of Ireland—a reading which was lower by 1.76 inch than it was fourteen hours previously. Between Belmullet and London there was a difference of a little over an inch in the readings, and proportional differences existed all over the country. With such differences, or gradients, it was inevitable that the wind would blow with great force, and the returns show that at a large number of stations it was a “whole gale,” a “storm,” or a “hurricane,” indicating that the velocity of the wind (not the storm as a body) was between sixty-five and one hundred miles an hour.

In the course of the day the centre moved across Ireland to Cumberland and the south of Scotland (see Fig. 2), the barometer at Omagh, co. Tyrone, falling to the extraordinary point of 27.24 inches, the lowest reading ever recorded in Europe. At Armagh it fell to 27.38 inches, and at Barrow-in-Furness to 27.41 inches. On all parts of the coast the storm was very violent, from west and south-west over England, from east and south-east over Scotland, and from north over Ireland. Moving at the rate of about fifteen miles an hour, the storm-area passed into the North Sea on Thursday, the winds then being northerly and moderating. The official report stated “the depression was so large that while its centre lay off our north-eastern coast, the system covered the whole of France, Germany, Austria, Western Russia, the Baltic, and Finland,” in addition to the United Kingdom and Scandinavia.

According to Lloyd's returns the hurricane caused 128 shipwrecks, of which sixty-one vessels went down off the British Isles. These disasters caused the loss of twenty-eight lives, but other sources represent the loss of life in all parts at several hundreds. Besides these casualties at sea there were numerous accidents and many lives lost in different parts of the country. It is seldom that we are visited by storms which, like this one, are violent all round the centre.

(In the two charts given as illustrations, observe the important fact that, without regard to the height of

the barometer, the wind is light or strong according as the lines called “isobars” are far apart or are close together.)

To compare one storm with another is, however, a matter of considerable difficulty. So many questions arise that no fixed rule can be adopted. “The oldest inhabitant” is almost certain to report each storm, if not as “the worst ever known,” at least the worst in the past quarter of a century. Structural damage, again, is not to be altogether relied upon as an unerring measure of a storm's violence, and the same may be said of the damage to trees. During the summer months we have few or no gales of any severity, but meanwhile the decay of buildings and trees goes on uninterruptedly; and the first autumnal storms cause far more injury in clearing away the weakest buildings and trees than do storms of equal or greater energy in the winter months. The trees being covered with leaves in September and October offer greater facilities for the wind to exert its full force upon them.

Every day throughout the year storms are raging in some part or other of the world; and to give a bare list without particulars would fill many volumes. We must content ourselves, therefore, with the mention of a few instances of destruction in our own country, and then see how we fare in comparison with other countries, our ideas of violence being directed chiefly to the destruction of life and property.

On January 26, 1884, the centre of a very deep disturbance passed across Scotland, the barometer falling to 27.33 inches at Ochertyre, in Crief. This is the next lowest reading to that of last December. The storm accompanying this depression caused great damage to shipping and property in general, and many lives were lost both in the United Kingdom and on the Continent.

In 1883 the gale of January 25 and 26 was very serious, uprooting trees, damaging buildings, and interrupting railway and telegraphic communications. At Oldham a stone weighing five tons was blown on to the roof of a mill, in its fall killing two girls, and injuring four others. The exceptionally heavy northerly gale of March 6 caused the loss of 382 lives on the east coast, the barometer at the time being very high (see Fig. 1). Numerous casualties on sea and land marked the progress of a remarkable storm-area across our islands between September 1 and 3.

On the morning of October 24, 1882, a small but violent storm suddenly formed in the English Channel, and caused considerable damage in the south-east.

The morning of October 26, 1859, is another prominent date in the history of storms, from the loss, on the coast of Anglesey, of the fine passenger steamship, the *Royal Charter*, with nearly all on board.

In early records of storms we have only popular

notions to guide us, accounts of damage being difficult to obtain, and what little could be gathered suffered from the too common failing of exaggeration. There is really nothing to convince us that storms experienced by our forefathers were more violent than modern ones. Houses were demolished, doors and windows destroyed, and many thousands of trees uprooted in the south-east of England on May 20, 1729,

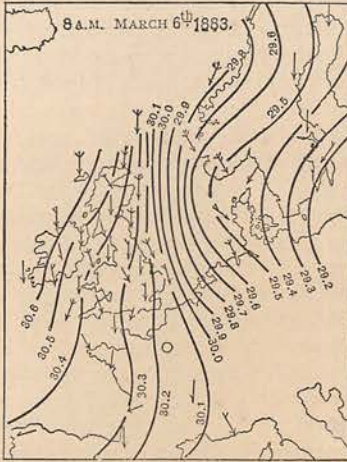


FIG. 1.—STORM WITH A VERY HIGH BAROMETER. THE WIND IS STRONGEST WHERE THE LINES, OR "ISOBARS," ARE MOST CROWDED.

the fierce wind carrying a tree, its roots, and attached earth, over three hedges, and wrecking a house in its way. Such a storm had "not been seen in this climate for many ages." We have, however, only to go back to November 26, 1703, for "The Storm," which took Defoe, the author of "Robinson Crusoe," a whole volume to describe; and after discussing all the storms he had experienced or read of, he came to the conclusion that this was "the greatest, the longest in duration, the widest in extent, of all the tempests that history gives any account of since the beginning of time." A statement published at Paris represented 300 ships and 30,000 lives lost on the coast of Britain, but Defoe thought these figures too high. The Royal Navy lost thirteen ships and nearly 1,500 men; and Winstanley's Eddystone Lighthouse was destroyed, the designer perishing with his edifice.

These recitals of destruction must not lead us to suppose that our islands suffer more from storms than other parts of the world. Two thousand years ago, when Britain was the remotest spot in the known world, our storms were the terror of Southern sailors, who imagined our gales to be the worst in the world. With our increased knowledge we find that they are mere trifles when compared with the vast aerial convulsions which desolate other countries. True it is that our position favours a greater number of storms, but this very frequency would seem to neutralise their destructiveness. Allusion has been made to the snow-storm of January, 1881, with its inconveniences, over the South of England. How trivial when compared with the storm over the Con-

tinental last Christmas week!—the English Channel squadron in grave peril off the coast of Portugal, and in the Mediterranean the gale of tremendous violence. On land the disturbance caused such a snowfall as to completely paralyse railway communication for days, the area affected extending from France to Russia. At the close of October, 1882, a huge storm-area reached France, and in its passage across the Continent caused a loss of property amounting to many millions of pounds sterling, the village of Grindelwald being reported as destroyed by the hurricane, the severity of the gale being felt in Algeria as much as in North-western Europe. This same gale has been traced to its first appearance in the Pacific Ocean, and seems to have been equally violent in Japan and the United States.

Going back to the year 1645, we find a hurricane visiting France at the end of February, "tearing up some thousands of trees by the roots, and carrying them away like chaff in the air, throwing down many hundreds of houses, removing others from their foundations, and doing the poor husbandmen such irreparable damages as the like has not been known in the memory of man."

American storms, tornadoes, and blizzards are far more destructive than our disturbances. But one instance will be sufficient for this part of the world. Five hundred persons were killed, a thousand vessels wrecked or stranded, and about a thousand buildings damaged or destroyed by a hurricane which visited Nova Scotia and the neighbourhood on August 24, 1873.

The foregoing may be taken as general types of the storms which affect high latitudes. Thousands more could be mentioned of equal, if not greater, violence; but after all they sink into insignificance when contrasted with the fearful tempests which ravage tropical regions. In the torrid zone Nature is lavish in all her gifts: men and beasts, birds and plants, all distributed in apparently reckless profusion. Fruitfulness is characteristic of everything, and the inhabitants, it may be said, neither toil nor spin, as a result of this lavishness. When, however, Nature exhibits her wrath in these fair climes, she exhibits herself with greater pageantry, and is as fearfully destructive as she is wonderfully generous at other times. Those of us who have not witnessed a tropical storm can scarcely realise the full extent of the West India hurricane of August, 1880, when such an enormous amount of damage was done over four-fifths of Jamaica. In many towns almost every house was destroyed—churches, chapels, hospitals, all toppling over before the fury of the blast. One district reported: "There is hardly a house, or a yam, banana, or cane piece left of some 600 houses and 10,000 acres of crops." In the hurricane of October 29 and 30, 1867, the barometer at St. Thomas fell 1.14 inch in an hour and a half! Contrast this with the fall, in fourteen hours, at Belmullet, last December.

No wonder that with such rapid decrease of pressure the gasometer at St. Thomas burst *outwards*, and the violence of the wind carried to a considerable distance

a diving-bell weighing several tons. At least 500 lives were lost on this small island. Sixty or seventy vessels were driven ashore or sunk, many others dismasted or damaged, nearly all the small craft being destroyed, and the light-house completely demolished, the value of the property destroyed amounting to nearly a million sterling, and neighbouring islands also suffering severely. The great hurricane of October 10, 1780, wrecked several ships of Admiral Rodney's fleet, and over forty French transports and merchant vessels, with thousands of lives; while among the islands thousands of houses were demolished, and tens of thousands of lives lost.

There is something horrible even in the calm area of a tropical storm: it is "an awful silence," "a frightful lull," "a fearful calm," or "so perfect a calm that it can only be compared with death after the most frightful convulsions."

From the West Indies let us pass into the Pacific, and see what ravages are committed by the terrible typhoons of the China seas. Think of the "horrible destruction caused by the typhoon" of October 20, 1882, in the Philippine Islands—deaths innumerable, enormous injury to shipping, and tens of thousands of houses, cathedrals, palaces, churches, monasteries, factories, &c., involved in the general ruin. Another typhoon passing over Tokio, the capital of Japan, on October 3 and 4, 1880, demolished 1,086 houses, and damaged 2,388, killed twenty-eight persons, and injured sixty-three others. Then the typhoon of July 27, 1862, is connected with the loss of 10,000 lives within a radius of ten miles of Canton, while for the whole district as far as Macao 40,000 persons were supposed to have perished; and yet, only five years later, September 8 and 9, 1867, "the greatest typhoon in the memory of the present inhabitants" was reported.

We must now pass to our Indian Empire, where the destructiveness of cyclones exceeds anything experienced in other countries, and proves to us how utterly helpless man is in the presence of these wild fits of the atmosphere. On November 2, 1867, the Calcutta anemometer was carried away when it indicated a pressure of 25 lbs. per square foot, and yet the result of the storm in the city and suburbs was the loss of 1,016 lives, 163 brick houses, 29,231 tiled and thatched houses, two ferry steamers, 67 cargo boats, 15 sloops, and 532 smaller craft. In the Midnapore cyclone of October 15 and 16, 1874, at least 4,000 human beings and 20,000 cattle were lost. Entire plantations were swept away, and the destruction of trees and plants was so great that "on the morning of the 16th the face of nature seemed changed." At Lalgolla, in Moorshedabad, the rainfall in *twenty-four hours* amounted to 16'3 inches (London rainfall averages about twenty-five inches *per annum*), representing a weight of considerably over a million tons of water per square mile.

The mere mention of the loss of life in a few Indian cyclones, is sufficient to send through us a thrill of horror:—

October 7, 1737: 300,000 persons drowned by a storm-wave.

June, 1822: 50,000 lost in the Burrisal and Backergunje cyclone.

October 31, 1831: 10,000 lives lost.

May 21, 1832: 8,000 to 10,000 drowned in the Sunderbunds.

October 2 to 5, 1864: 48,000 drowned by the storm-wave.

To conclude our account it will be fitting to mention the appalling catastrophe of October 31 and November 1, 1876, known as the Backergunje cyclone, which scattered death and desolation along its path. The barometer fell half an inch in half an hour, while the wind blew with indescribable fury, the anemometer at Chittagong recording an average velocity of seventy miles an hour over several consecutive hours; and to this tremendous wind-force and rapid decrease of pressure are attributed the three huge waves, from ten to forty-five feet high, which laid more than 3,000 square miles of country under water. The cattle destroyed were innumerable; houses and other buildings were entirely swept away; and when the official inquiry into the extent of the disaster was complete, it was found that the total loss of life was not less than 215,000!—three-fourths of the population in one place, one-half in another, having been lost. When the storm subsided the country was thickly strewn with the bodies of man and beast, the streams and brooks being choked with them. To the great surprise of everybody the crops suffered little or no injury, a fact which was accounted for by the flood being

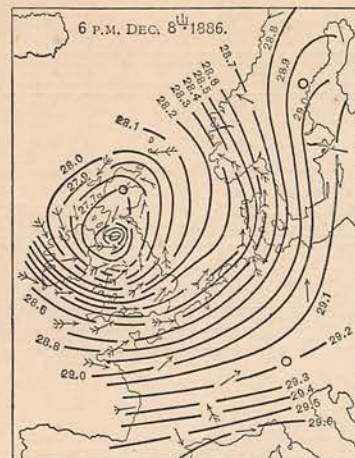


FIG. 2.—STORM WITH A VERY LOW BAROMETER.

fresh water and not salt. The survivors were therefore placed beyond the fear of a famine.

From the foregoing particulars we see that in spite of the great number of storms visiting the United Kingdom every year, and the loss of life and property they cause, we are on the whole more fortunately situated than our fellow-creatures in distant countries. Not only does this frequency of disturbed conditions

tend to lessen the violence of storms, it also prevents our having excessive heat in summer, and extreme cold in winter; in the former case we have "three fine days and a thunderstorm," and in the winter the cold lasts long enough to tempt us to take our skates to the nearest pond, only to find on arrival that a rapid thaw has set in.

Taking all things into consideration, and carefully

balancing the good and the bad, there does not seem to be much ground for discontent on our part, and we can therefore all the more readily agree with Cowper when he wrote—

"England! with all thy faults I love thee still

Though thy clime be fickle,
And thy year most part drenched with rain."



Aubade.

Words and Music by WILLIAM H. HUNT, D.Mus., Lond., L.Mus., T.C.L.

VOICE.

PIANO. *Moderato.* *f* *p* L.H.

mf

1. The sil - ver stars, in
2. The sil - ver stars grow

f *mf*

my - riad train, Gem the calm sum - mer sky;
pale and die, Fad - eth the moon's bright ray; The A