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A Science Service Feature

? WHY THE WEATHER ?

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THE TAY BRIDGE DISASTER

A gale that swept Scotland on December 28, 1879, is remembered as the cause of the "Tay Bridge Disaster." The railway bridge over the Firth of Tay, at Dundee - the longest railway bridge in the world - had been completed the year before. On the evening of the day mentioned, at the height of the storm, a large part of the structure gave way while a train was crossing it and fell into the water. Of the 75 persons in the train, not one survived the accident. This disaster is especially memorable from an engineering standpoint because of the stimulus it gave to the study of wind pressure on structures, previously neglected by British engineers.

The force of the wind that wrecked the bridge was the subject of some discussion among meteorologists. There was no anemometer at Dundee, but there were anemometers of the familiar Robinson pattern, with its revolving cups, at Aberdeen and Glasgow. The one at the latter place indicated an extreme velocity for a few minutes of 120 miles an hour. Certain necessary corrections appropriate to the type of instrument employed would reduce this figure to about 100 miles an hour, as the average force of the wind for a period of a minute or so, but on the other hand a cup anemometer fails to register the extreme force of the wind during brief gusts.

It is likely that this storm was the most violent that occurred in the British Isles during the nineteenth century, with one exception - the storm of January 6, 1839, which gave Ireland her famous "big wind."

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