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? WHY THE WEATHER ? Mailed October 13, 1933

GUSTS AND SQUALLS

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When Milton's herald of the sea "questioned every gust of rugged wings" about the fate of Lycidas and when sailors began to "look out for squalls," the world little realized how important gusts and squalls were destined to become in its affairs. Both, in their most obvious manifestations, are sudden accelerations of the wind; the former lasting from a second to half a minute and the latter of longer duration but seldom lasting more than a few minutes. The gust is a thing to be reckoned with in the designing of wind-resistant structures; the squall is a menace to navigators of the sea and the air, and the variety known as the line-squall plays a much larger part in weather changes than was suspected a generation ago.

Both have lately been the subject of much scientific research. "Gusts," wrote the late M.A. Giblett, of the Meteorological Office, "are due to the turbulent or eddy motion of the air arising from the friction offered by the ground to the flow of the general air current passing over the locality. In other words, they are the result of mechanical interference with the steady flow of air. A squall, on the other hand, is the result of some definite meteorological cause that affects the general air current flowing over the observer. Owing to the presence and diversity of the land surface, gusts are in general more frequent and more intense over land than over the sea. They are nevertheless experienced at sea and are very pronounced during heavy gales. In their most intense form they come with a boom like the discharge of a piece of heavy ordnance. Hence has arisen the sailor's expression 'blowing great guns.'"

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