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? WHY THE WEATHER ? Mailed April 24, 1930.

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THE STATOSCOPE

The statoscope is a sensitive form of barometer, which is not used, as is the ordinary barometer, to measure the actual pressure of the air at a certain time but serves merely to show whether the air pressure is increasing or decreasing, and at what rate. Statoscopes are used mainly by aeronauts for detecting and measuring vertical movements of aircraft, but also in some cases by observers on terra firma for noting sudden changes of pressure accompanying the passage of storms, etc.

Still another use occasionally made of this sensitive instrument is for measuring the heights of waves at sea. The pressure of the air at the crest of a wave is slightly less than that in the trough, and a statoscope installed on a vessel small enough to be lifted the full height of the wave can be used to measure this difference, just as an altimeter is used to measure the height of a mountain, though the process is subject to some errors and uncertainties. The instrument must be placed in a central position on the vessel, so as to eliminate the effects of pitching and rolling, and if a strong wind is blowing allowance must be made for the effects of gusts on the readings. A registering statoscope, which traces its record with a pen on a sheet of paper, was used by W. S. Bruce for measuring ocean waves during the Antarctic voyage of the "Scotia," and in more recent years many similar measurements have been made in various parts of the ocean on the French exploring ship "Pourquoi Pas?" by Lieut. J. Rouch.

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