



Electronics

ENGINEER'S YARDSTICK FOR LOUDNESS OF SOUND

PHYSICS

Yardstick Made For Volume of Sound

MUSICIANS measure the quality and pitch of sound. Engineers have invented a yardstick for its loudness or volume.

The sound scale was evolved to make more worth-while, studies prompted by the coming of talking movies, and by a growing realization that noise is detrimental to the best operation of the human machine. It gives engineers a standard scale of volume corresponding to the scales of pitch and quality.

How common noises compare with

one another on this scale is shown in the diagram prepared by the technical magazine, *Electronics*. Thunder with a volume of about 110 decibels is to the human ear 11 times as loud as the rustle of leaves and about twice as loud as a vacuum cleaner. But the energy required to make the noise of thunder is 10,000,000,000 times that which sets up the rustling sound of leaves and 1,000,000 times that giving rise to the vacuum cleaner noise.

Thus the ear is deceptive in the reception of sound. It registers weak sounds much more efficiently than physically loud sounds. To the ear 100 violins are only twice as loud as 10 violins, though they are obviously 10 times as intense.

This apparent deception on the part of the ear is its protection from excessively loud sounds. The eye acts the same way to light, refusing to receive great intensities that would harm it.

Science News Letter, May 6, 1933

A new Eye Institute in New York City has an operating room with a dome overhead, through which 16 students may observe with opera glasses the work of surgeons below.

Research scientists are collecting words from the dialects of different parts of the country, with the goal of compiling a linguistic atlas of the United States.