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Rare Lizard
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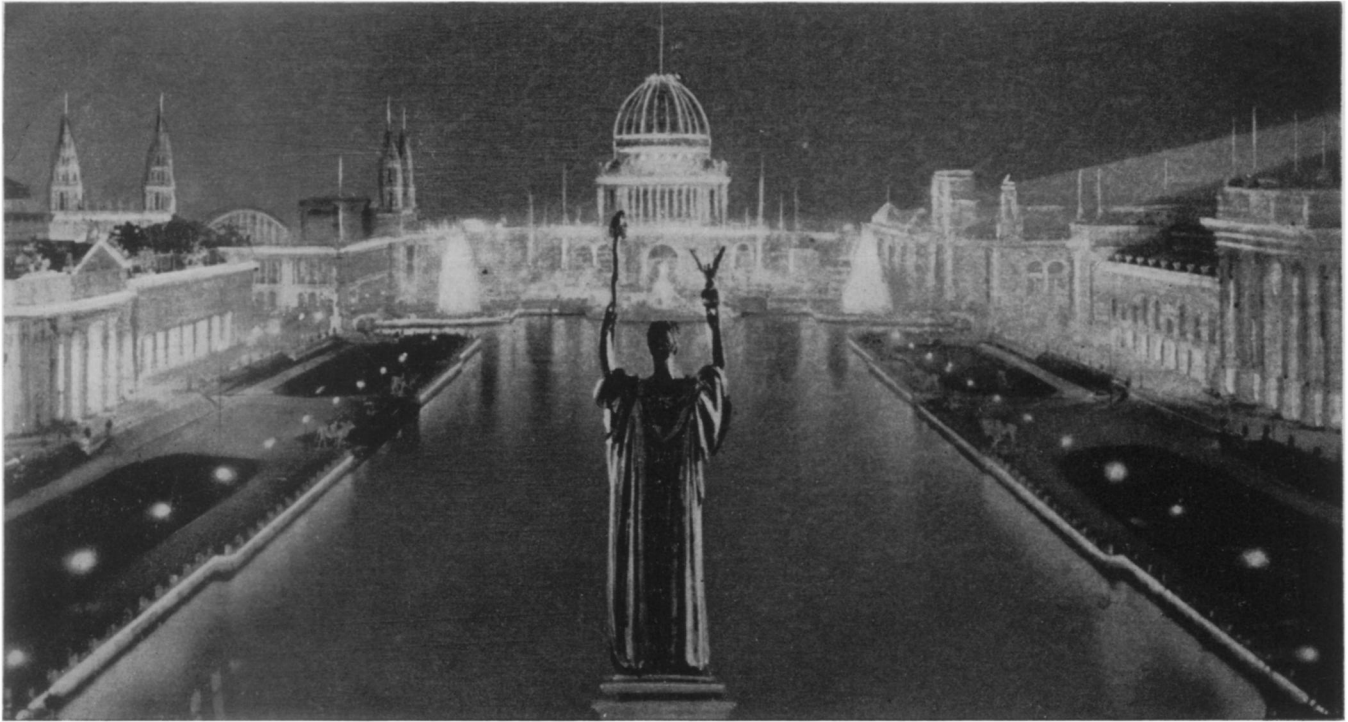
A SCIENCE SERVICE PUBLICATION

1921

TWENTY-FIFTH ANNIVERSARY

1946

1846—GEORGE WESTINGHOUSE CENTENNIAL—1946



And suddenly—a wonderland of light...

It was an unforgettable sight that greeted the crowds at the Chicago Columbian Exposition, back in May, 1893.

For suddenly 250,000 incandescent lamps—more than there were in *all* the rest of *America* at that time—blazed in the night. They transformed the World's Fair Grounds into a gleaming wonderland of light.

George Westinghouse had done it again. Overcoming tremendous obstacles, he had accomplished the "impossible" . . . *in one short year*.

Using an entirely new principle, this great inventor-engineer had developed a completely *new type* of in-

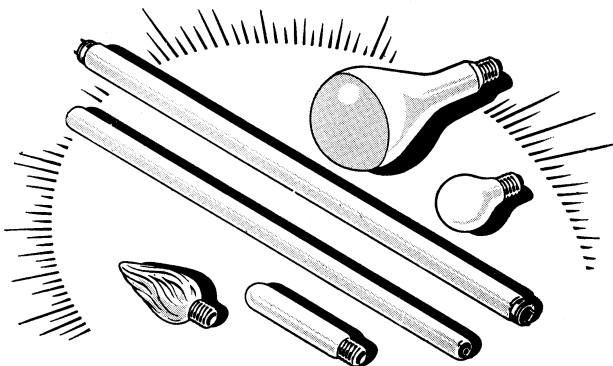
candescent lamp—the famous "stopper lamp." And he had equipped a new glass factory to turn them out by the hundreds of thousands!

Here again, George Westinghouse in this historical light demonstration proved the vision and ability of a great engineer.

The lighting of the Columbian Exposition was a brilliant spectacle—and an important one, for it launched for all time the new age of electric lighting.

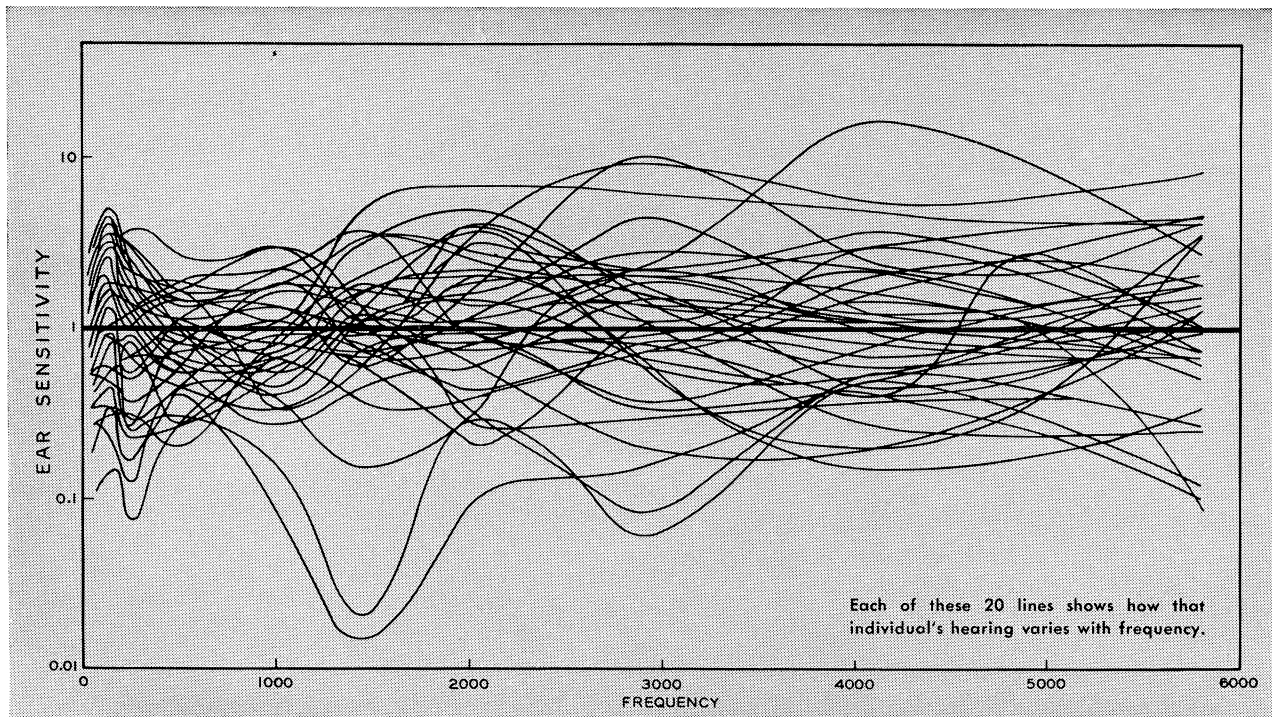
Westinghouse

PLANTS IN 25 CITIES OFFICES EVERYWHERE



TODAY—the Westinghouse Electric Corporation, one of many companies founded by this great inventor, makes incandescent lamps in all sizes, from tiny "grain of wheat" surgical lamps to high-power flood lights . . . fluorescent lamps that glow without flicker . . . high-intensity mercury lamps for industrial use . . . Sterilamps* that kill air-borne bacteria. In all, over 10,000 different types of lamps are made, each the result of skilled engineering—and over half a century of diversified experience.

*Registered Trademark



To measure is to know

Twenty-five years ago, one standard of sound power was the ticking of a watch, another was the clicking of two coins; and the measure was how far away the tick or the click could be heard. That test was made in measuring people's hearing, a field of interest to the Bell System scientists because the ear is the end-point of every talking circuit.

Accustomed to exact measurements, Bell scientists proceeded to develop a method of measuring hearing-sensitivity in terms which could be pre-

cisely defined and reproduced. After plotting hundreds of runs like those above, they decided on a particular sound intensity, representing an average "threshold of hearing," as a starting point.

The sounds delivered by a telephone line had previously been evaluated by listeners who compared their loudness with that of a standard source. There were wide variations in ears, as the chart shows, so the engineers replaced them by electrical instruments. When later their associ-

ates developed the Western Electric radio and public address systems, the necessary measuring circuits were promptly forthcoming. Addition of a standard microphone made a noise meter, widely used in quieting airplanes and automobiles.

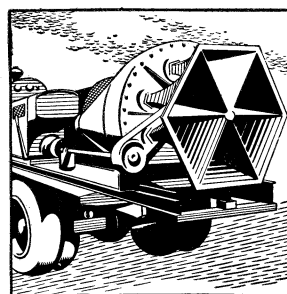
"Through measurement to knowledge," said a famous Netherlands scientist. The principle finds wide application in Bell Laboratories, whether the quest be for a way to measure sound, a new kind of insulation, or more economical telephone service.



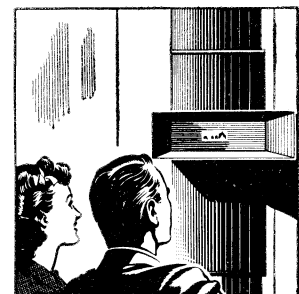
Hearing was first measured reliably by engineers in the Bell Telephone Laboratories



For good reception, program loudness must stay within certain limits. Volume-meters help to hold it there



From the throat of this mighty air-raid siren comes the loudest sustained sound ever produced



Visible Speech, result of telephone research, turns sound into "pictures" that the deaf can read



BELL TELEPHONE LABORATORIES Exploring and inventing, devising and perfecting for continued improvements and economies in telephone service