

HOW LOUD IS THE NOISE THAT MAKES CITY WORKERS JITTERY? SCIENCE METERS IT



Dr. William Braid White (left) measuring typewriter clatter with his noise meter.

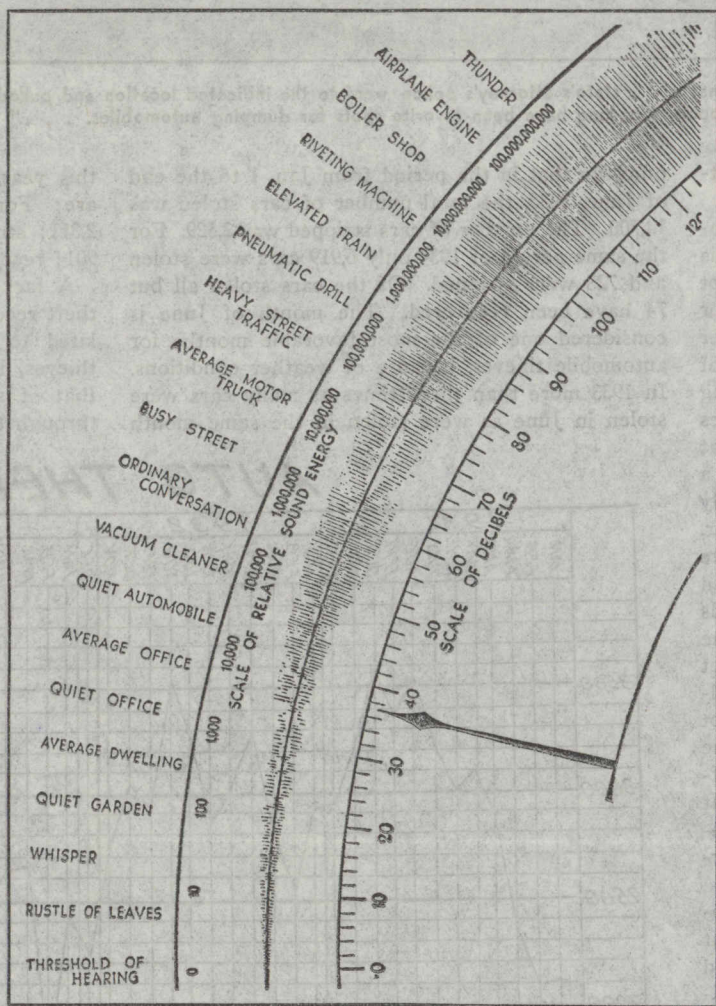
JOHN DOE is suffering from something like shell shock, and he never has been to the wars. Mr. Doe has offices at Wabash and Van Buren streets. "L" cars roar past his windows. Street cars crash and clang below. Riveting machines clatter. Trucks rumble, automobile horns honk. Worse, Mr. Doe doesn't sleep well. He has neighbors' radio trouble; he gets hot and bothered about milkmen and garbage collectors.

He's afraid he's slowing down at the office. He has headaches, circles under his eyes, high blood pressure, and some stomach trouble that may be ulcers. The doctor says Mr. Doe better ease up, or he's in for a serious nervous disorder. And Mrs. Doe is threatening to go home to mother.

City noises have done that to John Doe; collectively, they do staggering damage to health and efficiency of Mr. Doe's fellow cliff dwellers.

Prof. Donald A. Laird of Colgate university estimated a few years ago that noise costs Chicago \$1,600,000 a week, or \$83,200,000 a year, in lost efficiency. He arrived at that figure, which he considered conservative, by calculating 5 per cent efficiency loss for 1,600,000 persons earning an average of \$20 a week.

That city din is a nuisance has long been recognized; but until a few years ago the problem of its control appeared baffling. How loud is harmful noise? Who was qualified to say that this bedlam or that was intolerable and must be suppressed?



(By courtesy of "Electronics.")

Sound levels indicated in decibels and in units of sound energy.

A great volume of fact concerning noise had been catalogued, it is true. The pedestrian on Wabash avenue would not have been surprised to hear, for example, if he could hear anything at all—that in 1883 an explosion from the volcano Krakatoa, near Sumatra, was heard 3,000 miles away. That bit of sound history is narrated by Lieut. R. L. Dennison in an article in the U. S. Naval Institute proceedings.

But there was neither standard nor method of measurement. And it was only recently that science supplied both needs.

The measuring unit established, called the decibel in honor of Alexander Graham Bell, is now ordinarily accepted. For purposes of measuring, sound meters have been devised in variety. The typical sound meter includes a sound pick-up device, an amplifier circuit, a frequency weighing network approximating the ear's variable response, and an indicating meter scaled in decibels.

In laboratory tests, Dr. Laird finds that a tendency to abnormal fatigue results from noise levels above 40-50 decibels. In similar tests in an English factory it was discovered that ear protectors, which reduced the noise level from 96 to 87 decibels, enhanced the efficiency of workers by 12 per cent.

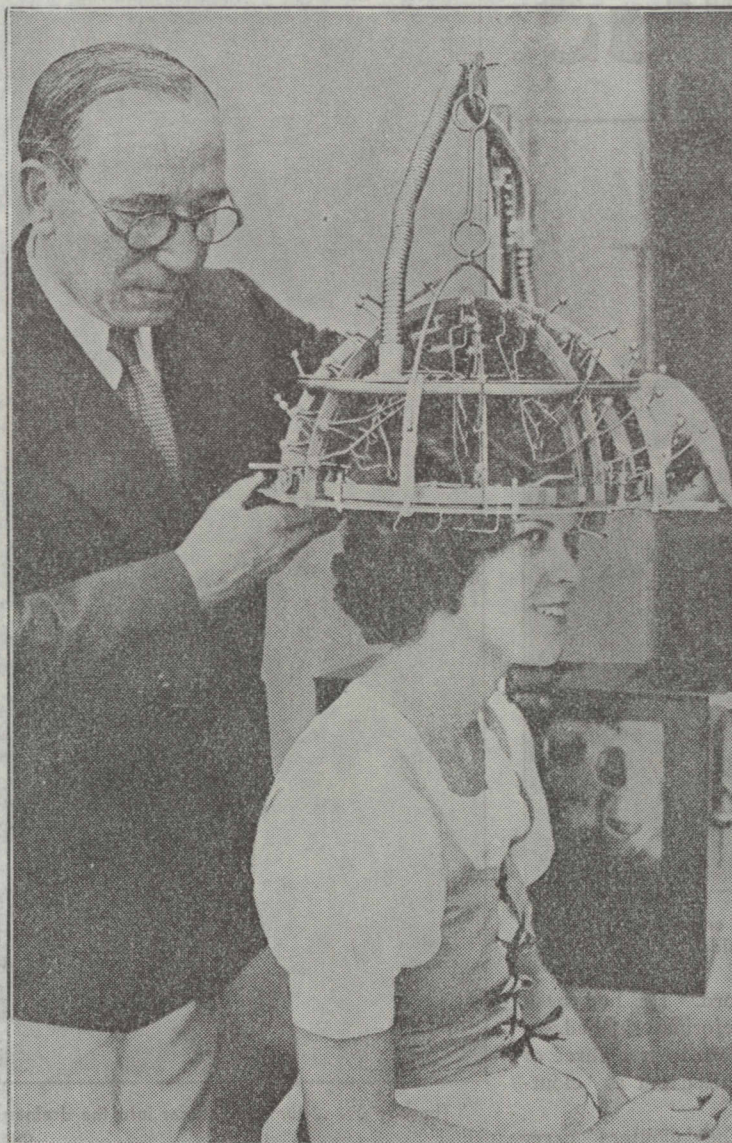
Cities and progressive private corporations alike are making increasingly greater efforts to minimize this curse of modern life. Regulation of din from street cars, subways, trucks, automobile horns, and street radios is being attempted. Sound absorbent walls and ceilings have arrived in the well-built industrial plant. And a New York dairy, with rubber-cushioned bottle carriers and rubber-tired wagons, is making the milkman socially more acceptable.



(Acme photo.)

Krakatoa . . . heard 3,000 miles away in 1883.

A ROBOT PSYCHO-ANALYST



How the psychologist places the psychograph machine on the head of a young woman who is to have her character analyzed.

VISITORS to A Century of Progress have exhibited considerable interest in the psychograph machine, an intricate mechanism which fits over the head and which, according to its sponsors, accurately reads the character of the subject. Demonstrating the machine at the Fair is C. W. Chamberlain, psychologist. The machine is the invention of Henry C. Lavery.

As explained by Mr. Chamberlain, the machine instantly measures 32 relative areas of the brain. In one moment it sorts, classifies, and indicates accurately 160 different ratings of 32 faculties, with a possibility of any one of more than a billion different printed inventories. In one-half second it prints the selected inventory and presents the results in the form of a page containing 900 words. It points out human tendencies, characteristics, weaknesses, and talents.

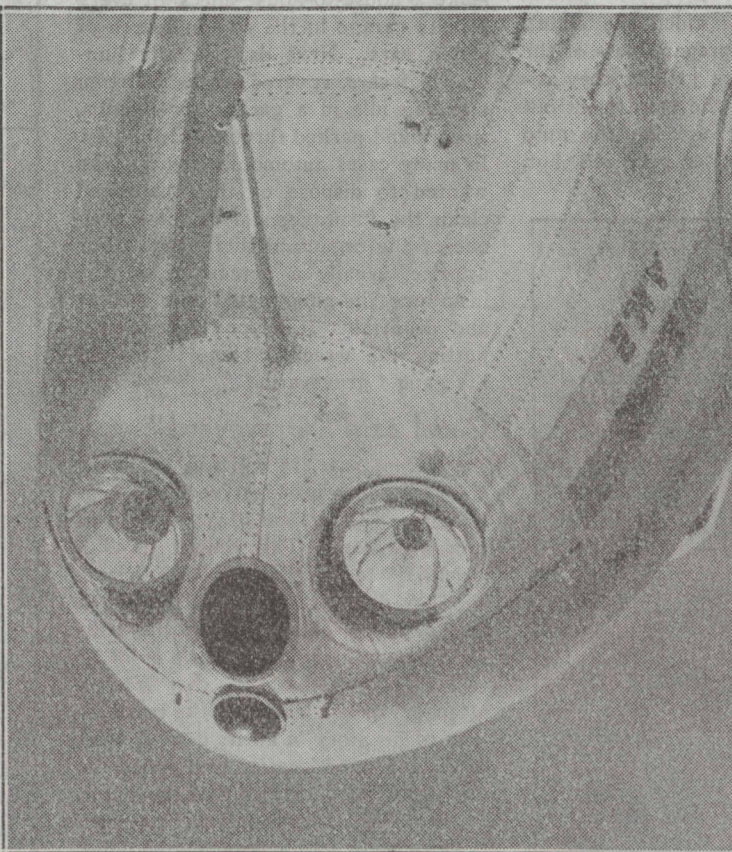
The machine is operated electrically and is said to be "foolproof." The entire operation for one reading is completed in 90 seconds. The machine indicates the ratings of the 32 faculties by the numerals 1, 2, 3, 4, and 5, which represent deficient, low, average, superior, and very superior.

This system correlates with psychology examinations given in schools and institutions. From the printed inventory the subject is enabled to discover what vocation he is best fitted for, what type of person he should marry, what course of studies to pursue, what development may be necessary for financial success, and scores of other facts. Mr. Chamberlain contends that the psychograph promises to revolutionize personnel work in business and industry.



Close-up of the psychograph machine adjusted for a character reading.

RECOGNIZE THIS 'MONSTER?'



(Associated Press photo.)

CLOSE inspection of this weird looking "monster" will reveal that it is neither fish nor fowl. The two bulbous "eyes" are the landing lights in the nose of a new Douglas air liner. You might suspect that the photograph was turned out of its normal position to get this effect—and you might be right. The long noses of the new type of big passenger planes such as this one are used to carry mail and baggage.

NEWEST AID TO SWIMMERS



(Underwood & Underwood photo.)

FOR speedier and easier swimming E. J. Babbit of Sawtelle, Cal., invented the rubber hand paddles shown here on the hands of a pretty bathing girl. Besides being an aid to swimmers, the paddles are useful to canoeists and surfboard riders. The paddles slip over the hands and are held to the wrists by straps. Life guards at the Santa Monica, Cal., beach are said to have adopted the paddles as regular equipment for rescues. In conjunction with another recent invention, a swimming shoe equipped with fins, these paddles would provide a swimmer with the means of attaining remarkable speed through the water.

ANOTHER SPORTS INVASION



(Acme photo.)

HOOP rolling as played by a pretty Tokio miss is illustrated in this picture from the land of the rising sun. She is a pupil of a Tokio school and an expert at whirling along with the hoop. This fascinating sport was introduced to Japan by Shugo Saito, who organized the Nagaya Hoop club. The Japanese are quick to take up new forms of sport and outdoor recreation. Within a few months hoop rolling has become popular throughout Nippon.

MUTT SAVED BY BLUEBLOOD



(Associated Press photo.)

SOME dogs have pedigrees and some do not, but to persons who have dogs for pets, unless they are dog fanciers, the pedigree is of little importance. When this black-and-white mongrel, "Polly," owned by Mr. and Mrs. Leonard Booth of Macon, Ga., was stricken with lead poisoning, the veterinarian said only a blood transfusion could save its life. A pedigreed spitz was loaned by its owner, and Polly recovered.