

PHYSIOLOGY

Noise Affects Hearing

► **THAT POWER** mower which is now making its reappearance on lawns across the United States, coupled with all of the other machines and appliances in homes and factories, may be responsible for severe loss of hearing.

The noise produced by automobiles, planes, trains, subways, electric shavers, vacuum cleaners, radio and television sets plus eight hours of noise in a factory can add up to ear damage in as short a period as a few months, C. D. Yaffe of the U.S. Public Health Service told a group attending an Industrial Health Conference in Atlantic City, N.J.

Mr. Yaffe is conducting a study, now in its sixth year, on the effect of industrial noises.

Attempts have been made to reduce the exposure to industrial noise by changing processes and using other noise abatement procedures, he said. But some situations do not lend themselves to noise reduction. The solution for this type of situation may eventually call for redesign of equipment.

Noise exposures can produce significant hearing loss regardless of whether the individual is exposed to any noise of conse-

quence off the job. The number of workers 1,000,000, probably exceeds the number exposed to any other occupational hazard, he indicated.

The Public Health Service, in cooperation exposed to hazardous noise levels, about with the U.S. Bureau of Prisons, is studying the noise levels and hearing loss of prisoners in four Federal penitentiaries. Areas of study include woolen and cotton textile mills, clothing, shoe and furniture manufacture, the manufacture of steel shelving and other sheet metal products, brush manufacturing, and printing.

Preliminary findings indicate that, under certain noise conditions, most of the hearing loss occurs in the first three months of employment. A study is underway to determine what percentage of loss is temporary, Mr. Yaffe reported.

Further studies and better methods of reducing factory noises will be conducted in the future to determine the extent of hearing loss caused by constant industrial noise plus the background noise of machinery and appliances experienced by the public daily.

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cies and all defense contractors, should be established to increase the efficiency and economy of the security clearance procedure.

2. The "need to know" criterion should be abolished so that American scientists who have passed a rigid security clearance may have ready access to the technological information necessary to help the nation regain scientific supremacy.

3. There should be no attempts to hide discoveries of the basic laws of nature made in the past, present or future.

The committee report, submitted to House Speaker Sam Rayburn (D.-Tex.), is based on a study made by its special Government information subcommittee headed by Rep. John E. Moss (D.-Calif.).

In recent years, the report says, science and secrecy have collided head-on in the United States. Thus far, secrecy has dominated. During the same period, the U. S. appears to have lost the lead in some areas of scientific achievement, dramatically demonstrated to the world when Russia launched the earth's first two space satellites.

Restrictions on exchange of scientific information are closely related to the U.S. loss of the first lap of the race into space, the committee charges.

The only real national security lies in scientific progress, they conclude, and scientific progress relies heavily on a free exchange of ideas. Excessive restrictions on the free exchange of scientific ideas, therefore, defeat national security.

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PSYCHOLOGY

Study Rats' Psychology

► **EVEN A RAT** can be sympathetic.

This was reported to the Eastern Psychological Association meeting in Philadelphia by Dr. Russell M. Church of Brown University.

The rats in Dr. Church's experiments were allowed to look through a window and see another rat being given a mild electric shock. After watching the other rat in pain for 40 seconds, the experimental rat was shocked for one second. After repeated experiences of this, the experimental animal learned to show fear at sight of the other rat in pain.

Two other groups of rats served as "controls" for the experiment. One group had nothing happen to them while the other rat was shocked. The other group was shocked at times unrelated to the pain of the other rat.

Rats in the shocked control groups displayed emotion while the neighbor rat was being shocked, but the emotion was less than that displayed by the experimental animals.

The emotion in the shocked control animals may have been due to "self-conditioning" rather than sensitization, the psychologists conclude, however.

Rats are "Distracted"

► **RATS THAT** have learned to distinguish a horizontal stripe pattern from a vertical one have their scores cut down by the sight

of a cardboard profile of a rat during the test.

The fact that rats can be "distracted" by a stationary cardboard "rat" was also reported to the Psychological Association by Drs. Harry L. Jacobs of Bucknell University and F. Loren Smith of the University of Delaware.

Scores of the rats were cut down even more, however, by a white short-haired toy dog that was moved around in the vicinity of the "wrong" pattern. The greatest distraction of all was provided by a live rat.

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GENERAL SCIENCE

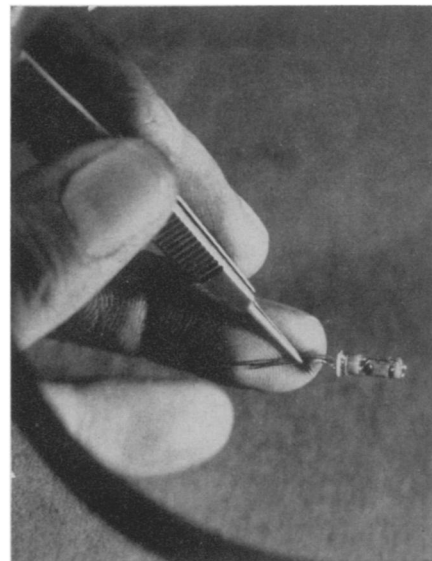
Committee Denounces Federal Secrecy Rules

► **THE HOUSE** Committee on Government Operations has strongly denounced the Government's secrecy policies on scientific information and national defense.

The committee charges the American scientist is "mired" in a "swamp of secrecy" by the Government's security regulations. Although these excessive secrecy rules are issued in the name of national security, they stifle the nation's scientific progress, the committee says in a recently issued report.

To help free scientists from the present security strait jacket, the House Committee recommends:

1. A system of uniform security clearance, applying to scientists working for all agen-



THERMOMETER—Accurate measurement of temperatures in outer space may be possible with this germanium resistance thermometer, shown with its outer case removed, developed by J. E. Kunzler, T. H. Geballe and G. W. Hull of Bell Telephone Laboratories, New York. Once calibrated, this thermometer is reproducible to better than a few ten thousandths of a degree at the boiling point of helium (4.2 degrees Kelvin) even after repeated cycling from room temperature.