

GENERAL SCIENCE

Science Needs Support

A compromise is needed between the President and Congress to advance science with government support via a National Science Foundation.

By WATSON DAVIS

► BECAUSE Congress and the President couldn't agree about how to run a National Science Foundation, the nation is without strong government support of the kind of fundamental scientific research that may decide between future abundant life and disastrous destruction of civilization.

Congress passed a bill that provided a foundation controlled by a board of two dozen part-time members, but President Truman vetoed it because he wanted it run by an administrator with an advisory board.

The next session of Congress will have the same line-up and players. There is not much hope that either side, President or Congress, will adopt the other's plan.

Scientists and the public, polls and inquiries have shown, want science to advance with government support.

They want essentially civilian direction of scientific research, despite the necessary accelerated development of science for military use and the stop-gap grants being given munificently by the armed forces to universities and other laboratories.

So, Mr. President and Mr. Congressman, how about a new plan? Could you get together for the sake of the nation, on some such scheme as this:

1. For the controlling body, authorize a U. S. National Science Commission of five full-time members.

The commission form of organization is a workable, approved method of government administration, as in the Atomic Energy Commission, the Federal Trade Commission, the Federal Communications Commission, the Federal Power Commission, etc.

2. Incorporate in the new bill for a National Science Commission the salient features of the bill that passed in the last session, modified as necessary to be acceptable to both the President and Congressional leaders.

3. Invite all members of Congress to join in introducing the bill in the next session of the 80th Congress. There is excellent precedent for this unity for science. In the 75th Congress, S. 2067 "authorizing the Surgeon General of the U. S. Public Health Service to control and prevent the spread of the disease of cancer" was introduced jointly by every member of the Senate. The bill passed. Few members of the present Congress will wish to go on record "against science" in this atomic age, just as in 1937 no member of the Senate could afford to be in favor of cancer.

Mr. Truman, why not ask the Senate and House backers of the National Science Foundation bill to confer with you? This is an international emergency, as important in the long pull as filling empty human stomachs.

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Nickel was first discovered as an element in 1751 by a Swedish scientist.



WINS AWARD—Dr. Bernardo A. Houssay, of Buenos Aires, is the co-winner of the Nobel prize in medicine. He discovered the relation between the pancreas and the pituitary gland.

lutions per minute, the sound has a pitch of 30,000 cycles, and is too high for the human ear to hear.

White mice placed in the sound field died after one minute of exposure. Another mouse, exposed a half minute, appeared normal eight minutes later. The following day, however, its outer ear had deteriorated. The silent siren also was found effective in killing insects. Mosquitoes died in 10 seconds but a monarch butterfly caterpillar lived 215 seconds.

Possible uses for the device include the sterilization of foods, medical treatments and surgery, treatment of seeds to increase germination, elimination of the smoke menace, and speeding up chemical reactions.

When the human hand is placed over the siren, the heating is felt at those parts of the fingers that are close together but not quite touching. Temperatures were measured with a thermocouple attached to the hand. They were also measured with the thermocouple attached to soft rubber tubing in place of the fingers. Increases as much as 45 degrees Centigrade were noted. With stiff rubber tubing the temperature increases were slight. The heating, therefore, seems to be produced by the damping of vibrations set up in the fingers by the intense sound field in the region between them.

Science News Letter, November 1, 1947

PHYSICS

Sound Kills Mouse

► SOUND too high-pitched for the human ear to hear, given out from a lantern-shaped siren developed at the Pennsylvania State College, contains enough heat energy to light a pipe, pop corn, or to kill a mouse, it is now revealed.

The device is called an ultrasonic siren. Details of its construction, together with some of the biological effects secured with it, appeared in the *Journal of the Acoustical Society* (Sept.). The

report was by C. H. Allen and Dr. Isadore Rudnick who developed the siren under the direction of Dr. H. K. Schilling, director of the Penn State acoustics laboratory.

In the siren, compressed air in a small chamber escapes through 100 small holes shaped like cones and spaced equally on a six-inch circle. As air escapes, a wheel with 100 teeth chops the air into pulses. Each pulse then becomes a sound wave. When the wheel spins at 18,000 revo-