required in the executive branch to help administer the vast technical programs on which the government, by necessity, has embarked. To assure that the government does, in fact, obtain the best people, it should, as a matter of national policy, recruit with vigor and purpose.

During the period of the establishment of our government as a government under the law and later, during the development of our national character and institutions, we drafted the lawyer into the service of the nation, not only in the judicial, but in the executive and legislative branches of our government.

We still need the lawyer, but we must extend the draft to a new class. We must conscript science and technology into this service. We can no longer afford to exempt the scientist or the engineer. We must reclassify him.

We not only can use him in our present posture, but we need him in order to bring into the law making process and into the area of the administration of government a further comprehension of the interaction of technology and scientific advances with our society. This we may be able to do once we can convince him that there is as much challenge and excitement in the laboratories of government as in the laboratories of science.

I do not say that we should emulate the Soviets who have virtually enthroned the engineer and the scientist in the seats of power so that they number the majority of the members of the Presidium, the Council of Ministers and the Party Secretariat.

But, we must bring the engineer and the scientist across the threshold and into the chambers where our national policy is created—not merely allow them to stand in the corridors where it is discussed. We can no longer afford to insulate the body politic from the contributions, influence, and impact of such a significant segment of our revolutionary scientific social order.

I must admit that in making these suggestions concerning the entrance of scientists and engineers into government I make the assumption that a sufficient number of people with this background as a starting point can also acquire a sufficient degree of proficiency, which is a necessary requirement, in the science or art of politics.

I hope that I am correct in making this assumption. The basic requirement is the combination of scientific capability, however acquired, with political capability, and this combination can be, and has been, achieved by many people with different starting points.

Let me add a word concerning planning at all levels, including the national level, for the progress of science itself.

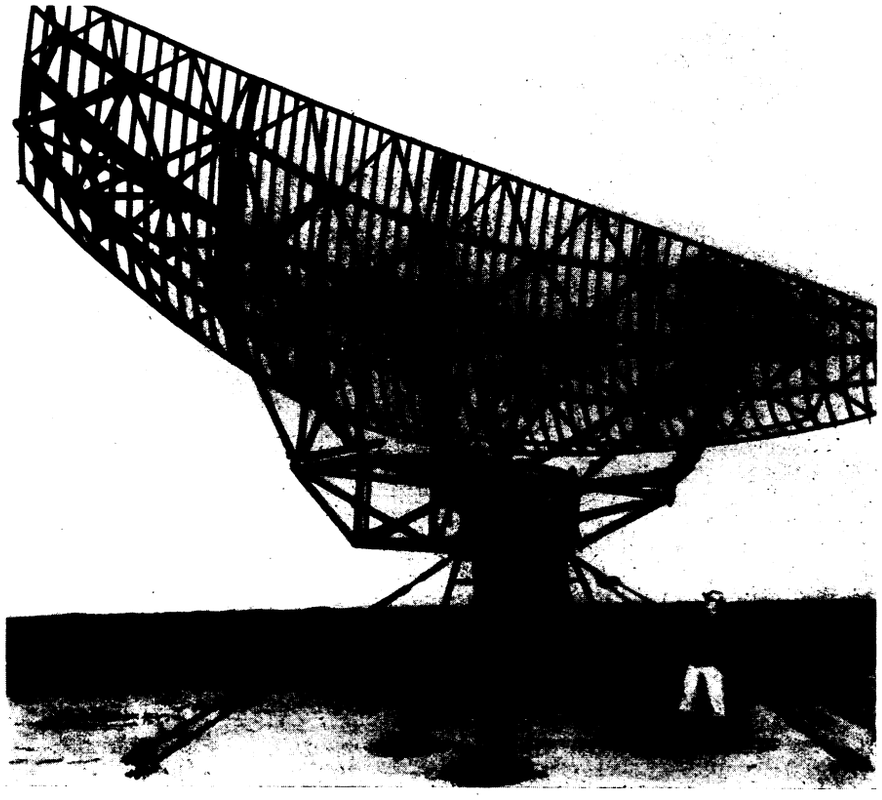
We must insure that we have a sufficient number of scientists, and a sufficient number of engineers, whose contributions insure the practical applications of many of the discoveries of pure science. We must insure the availability of the increasing financial support required for the conduct of pure, applied, and engineering research, and especial attention to the needs of the universities and colleges is required for this purpose.

All of this must be done without impairing individual initiative, the characteristic which is so essential to formulating and solving the problems of research. We must continue to require that the results of the scientist's labors pass that severest of all tests, the judgment of his critical and qualified fellow scientists. This rule will prevent the development of pseudoscience.

Its application should guide the future progress of science itself.

Excerpted from an address at George Washington University.

• Science News Letter, 82:221 October 6, 1962



GIANT RADAR ANTENNA—The Army's largest portable, tactical antenna, the first of a series produced for the Army Signal Corps by Hazeltine Corporation, has been delivered for use in missile monitor air defense installations. Adaptable to any radar in its frequency band, it has a reflector measuring 40 by 11 feet. It can be segmented and transported by truck or flat car and set up in about four hours by a team of eight men.

VETERINARY MEDICINE

Thoroughbred Horse Gets Human Disease

➤ MUSCLE SPASMS called congenital myotonia, similar to a human disease, has now been reported for the first time in a thoroughbred horse. It is also found in goats.

Drs. Sheldon Steinberg and Stella Botelho of the University of Pennsylvania, have concluded that this muscle abnormality may occur more frequently throughout the animal kingdom than has been believed.

The symptoms included lameness, first noted at three weeks of age, which was most marked after a period of rest and decreased after activity. Treatment after 12 months has failed to arrest the symptoms, although the horse remains well otherwise.

The report appears in Science, 137:979, 1962.

• Science News Letter, 82:223 October 6, 1962

TECHNOLOGY

Airgeep Flies Without Wings or Propellers

See Front Cover

➤ AIRGEEP II, seen on this week's front cover, flies without wings or conventional propellers.

A successor to Airgeep I, first flown in May 1958, it is powered by two turbines. The airgeeps make use of the ducted propeller principle. Without wings or conventional propellers, they are a departure from most vertical take-off and landing designs. Lift is derived from two 3-bladed ducted rotors, one at the front and one at the rear of the machine. The pilot's and co-pilot's seats are in the center section between the rotors. The rotors are completely shielded on all sides, an important safety feature. It is designed to be capable of flights at altitudes of several thousand feet.

Compact design and protected rotors enable the aerial jeep to thread its way down narrow roads, between trees and other obstacles. It can be wheeled into large cargo aircraft without disassembly.

• Science News Letter, 82:223 October 6, 1962