

## GENERAL SCIENCE

# Better Use of Scientists

Inefficient distribution of U. S. manpower in scientific and engineering fields is the target of a committee appointed by the late President Kennedy.

► AMERICA'S science and engineering talent needs better utilization, it is recommended in a just-issued report of the National Academy of Sciences Committee on Utilization of Scientific and Engineering Manpower.

The 17-man committee was set up to investigate this problem at the request of the late President Kennedy in 1961. It was headed by Dr. James R. Killian Jr., chairman of the Corporation of the Massachusetts Institute of Technology, Cambridge.

The report points out that there were 1.7 million scientists, engineers, and secondary school science teachers in the United States in 1963.

They made up 2.1% of the country's total work force in 1960 and are expected to comprise 2.8% as of 1970.

Scientists and engineers are out of work in the United States today, the report points out, while scientific and engineering jobs go unfilled.

Many of those who are employed are employed wastefully, while vital work goes undone.

The Soviet Union's scientific and engineering manpower is already as great as that of the U.S., and is increasing twice as fast, the report reveals.

Western Europe is also presenting a challenge to our scientific and technical eminence.

The percentage of students studying science and technology in this country is less than that in West Germany, France, Britain, Australia and Russia.

The report stresses that if we are to overcome these and other problems in this area, it is necessary that we have extensive and accurate information about them and their causes.

The committee's conclusions include:

1. The massive influence of the Federal Government on the deployment and utilization of scientists and engineers imposes on government an entirely new order of responsibility to prevent malutilization. Government must assess in advance the effects of its decisions on the deployment of large numbers of scientists and engineers, both in undertaking new projects and in discontinuing old ones.

2. We should avoid emphasizing "big science" to the detriment of the individual investigator or scholar-teacher. The Government should be mindful of the manpower needs of the civilian economy in considering great technological projects.

3. Meaningful, reliable data, expertly analyzed and coordinated, on the allocation and utilization of scientists and engineers are needed. Because of the inadequacy of such data, decisions affecting utilization have so far been based largely on hunches, intuition, and fragmentary information.

4. Managerial leadership plays a key role in achieving a wise allocation and utilization of scientists and engineers. In our innovative society we need more managers with a new dimension: managers who can match comprehension of a complex, changing technology with mastery of the arts of leadership.

5. Manpower policy is of central importance in maintaining high standards of accomplishment. Increasing the supply of scientists and engineers at the expense of quality may be more harmful than helpful, while overcommitment of the existing manpower in any field may seriously lower standards of performance.

6. Carefully thought-out policies and strategies for human resources development and use are important. We must do more than preach that investment in men is more important than investment in things. We must carry this view into practice.

7. Institutions and individuals should be adaptive to change. Individuals must have a deep commitment to innovation and self-renewal. Institutions must continually adapt their policies and procedures to new tasks. They also have an increasing responsibility for encouraging personnel, especially those in the professions, to renew, update and extend their skills throughout their careers, and for providing them opportunities to do so.

• Science News Letter, 86:34 July 18, 1964

## TECHNOLOGY

## Spiral Building Designed For Mass Auto Parking

► PARKING in a spiral promises to become fashionable. A new parking building uses two or more continuous spiral surfaces for angle parking.

Called the Spira-Park, it can be adapted to various capacities. With three loops, the Spira-Park can house 460 cars, and with seven loops it can hold 1,060 automobiles. It was developed by the Austin Company, Cleveland.

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## EDUCATION

## Physicists Needed to Meet Rising Demand

► THE UNITED STATES is not producing enough physicists to meet the demands being made by education, research and industry.

Based upon present trends, there will be 59,300 jobs available in 1970 and only 38,000 physicists to fill them, the American Institute of Physics predicts. In 1960, with 29,000 physics jobs to fill, there were only about 17,000 physicists.

There are only about 500 people each year who become certified in the United States as physics teachers, and of these, only 300 will actually teach their major subject. This represents a bare two percent of the 16,700 people who teach some physics in U. S. public high schools.

Much of the problem centers around students' lack of interest in physics courses during secondary school and college. Only one out of four high school graduates has taken such a course, and on the college level.

• Science News Letter, 86:34 July 18, 1964



David W. Mann Co.

**PHOTOGRAPHIC SCANNER**—Post-flight analysis of photographic data obtained in the Air Force Ballistic Missile Reentry Systems (BMRS) program will be faster with this new processing system, the Microdensitometer, which will measure the position and the relative lightness or darkness of micron-sized images while scanning photographic plates at rates up to 625 millimeters per minute.