

GENERAL SCIENCE

NAS Celebrates 100th Year

The vital importance of international scientific cooperation and the wise use of the world's resources was stressed by President Kennedy before the National Academy of Sciences.

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➤ PRESIDENT KENNEDY said there are four areas—natural resources, the world's seas and atmosphere, and the results of scientific experiments—about which the National Academy of Sciences should be especially concerned.

Speaking at the centennial celebration of the Academy in Washington, D. C., he called for a continuation of international cooperation in these fields. President Kennedy noted, for instance, that the yield of food from the seas "could be increased five or ten times through better knowledge of marine biology."

He recommended that the job be done by all nations of the world working together in international institutions. Even more than the oceans, President Kennedy said, the study of the atmosphere requires worldwide observation and international cooperation, since weather cannot be easily reproduced and observed in the laboratory.

However, the President charged that the "greatest challenge to science in our time" is to use the world's resources to expand life and hope for the world's inhabitants.

He noted that the responsibility to control the effects of scientific experiments was one that had greatly concerned many Academy members. The problem is that scientists now have the power, for the first time in history, to undertake experiments that can change the world's biological and physical environment.

President Kennedy said he was "heartened" by the fact that more than 100 nations have joined to outlaw nuclear testing in the atmosphere. This shows, he said, the world is satisfied that radioactive contamination involves unnecessary risks.

The international character of science, he said, is shown by the fact that 163 of the Academy's 670 members were born in other countries.

He noted that the great scientific challenges such as the four outlined "transcend national frontiers and national prejudices."

In closing, President Kennedy said:

"If science is to press ahead in the four fields I have mentioned, if it is to continue to grow in effectiveness and productivity, our society must provide scientific inquiry" the money with which to function.

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Fremont Davis

FROM RUSSIA—Among the foreign guests attending the centennial celebration of the National Academy of Sciences were Drs. A. P. Vinogradov (left) and Vladimir I. Veksler both of the Academy of Sciences of the USSR. Dr. Veksler is co-winner of this year's Atoms for Peace Award with Nobelist Edwin M. McMillan.

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Science Interest at Peak

➤ GENERAL INTEREST in science is greater than ever before, and it is not solely in the form of uncritical praise, President Kennedy's top science advisor reported.

Speaking before the centennial celebration of the National Academy of Sciences, Dr. Jerome B. Wiesner said the increased interest includes a mood of "deep-seated concern about the character and purposes of the nation's scientific and technological undertakings."

His remarks followed a blast at the nation's project to put a man on the moon made by Dr. Linus Pauling, another centennial speaker. Dr. Pauling, the outspoken chemist who recently won his second Nobel Prize, had said the enormous expenditure for the moon shot could be spent better on down-to-earth projects.

Dr. Pauling and other Academy members agreed not to talk any more on that topic until after the three-day celebration for fear it would detract from it.

Dr. Wiesner said one of the biggest influences to the interest in science has been the widened field of research supported by the Federal Government.

"While the level of spending for military research and development has remained almost constant during the past three years,"

he said, "total Federal expenditures for all research and development have continued to rise at an exponential rate."

Dr. I. I. Rabi, famed physicist of Columbia University, New York, told the session that the rise of interest is also due to a realization that science "satisfies a basic desire or aspiration just to know, to find, or perhaps make order out of the otherwise chaotic jumble of immediate experience."

In this sense, he said, scientists are just children who never grew up, who never lost the nagging urge to ask how, why and what.

"Science possesses an infinite variety of limited goals but in the end marches toward a limitless horizon; it consolidates its gains but does not rest on its laurels," Dr. Rabi said.

"Members of this community possess an inner solidity which comes from a sense of achievement and an inner conviction that the advance of science is important and worthy of their greatest effort."

Dr. J. Robert Oppenheimer, director of the Institute for Advanced Study, Princeton, N. J., called for a greater understanding by non-scientists of the method and goals of science.

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Stress Affects Behavior

➤ INFANTS WHOSE SKIN is cut to form scars and whose ears and nose are pierced in the manner required by their society may grow up differently as the result of this stress.

A child who is separated from its mother through unusual circumstances may have an adult personality of mistrust, hostility and delinquency.

Monkeys reared with artificial mothers or sheep fed with bottles do not show normal maternal behavior when they grow older.

These are only a few examples of current research in the behavioral sciences.

In order to understand man, it is necessary to study culture and conditions governing his behavior, Dr. Neal E. Miller, professor of psychology at Yale University, told the centennial celebration of the National Academy of Sciences. The basic principles of human learning and behavior are inherited in man's physiological makeup, he said.

What a child or animal learns during a critical period can affect him the rest of his life. The effects of certain experiences during this critical period have been demonstrated with laboratory animals. But scientists cannot experiment on children, unless unusual circumstances allow or unless they are studied in societies where children are normally subjected to stress.

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