

# The Month at Caltech

## *Heineman Prize*

Murray Gell-Mann, Caltech professor of physics, has been named 1959 winner of the Dannie Heineman Prize for Mathematical Physics. The \$2500 prize, conferred every two years, was established by the Heineman Foundation for Research, Education, Charitable, and Scientific Purposes, Inc., to encourage research in the field of mathematical physics and to recognize outstanding publication in this area. Dr. Gell-Mann was cited for "his contributions to field theory and to the theory of elementary particles."

This year, for the first time, the Heineman Prize is being administered by the American Institute of Physics in cooperation with the American Physical Society. It will be formally presented to Dr. Gell-Mann at the society's spring meeting in Washington on May 1.

Dr. Gell-Mann was graduated from Yale University in 1948 and, two years later, at the age of 21, he received his PhD from the Massachusetts Institute of Technology. He was at the Institute for Advanced Study at Princeton for a year, then joined the teaching staff at the University of Chicago in 1952, serving on the research staff at the University of Illinois during the summers of 1951 and 1953. After teaching at Columbia University, and further research at the Institute for Advanced Study, he came to Caltech in 1955 as associate professor of physics.

Dr. Robert F. Bacher, chairman of the Division of Physics, Mathematics and Astronomy at Caltech, says:

"Murray Gell-Mann is one of the leading theoretical physicists in the United States in the last 25 years. He has made major contributions in a number of important fields in theoretical physics.

"His introduction of the idea of 'strangeness' in accounting for the long life of unstable particles produced in high-energy nuclear interactions has played a very important part in our comprehension of these particles and their relation one to another. This is a major contribution to particle physics.

"In collaboration with Dr. Richard Feynman, professor of theoretical physics at Caltech, he has produced a theory of the weak interactions responsible for Beta decay which has given both a qualitative and quantitative account of these interactions. In the past,

theories of weak interactions have always been in disagreement with some experimental results.

"The present theory with which Dr. Gell-Mann has been associated initially disagreed with some experimental results which were believed to be well established, but further experimental work during the past year is indicating that the theory is correct in all respects. This is indeed another major advance in the field.

"The subjects on which Dr. Gell-Mann works are on the outermost frontier of microscopic or particle physics and he has already made some very important contributions. In addition to his own work he is very active in his relations with post-doctoral fellows and graduate students."

## *Space Conference*

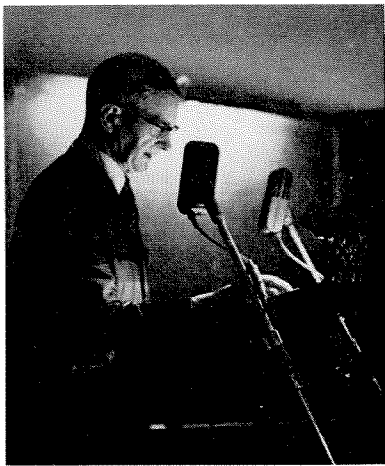
The Institute sponsored a two-day conference on the campus last month on "The Realities of Space Exploration." Participants included some of the country's top space scientists.

Despite the fact that one of the national press services reported some controversial off-the-floor comments as part of the formal program, in an attempt to make the conference sound livelier, the affair was notably sedate — and successful in its aim to discuss some of the *realities* of space exploration.

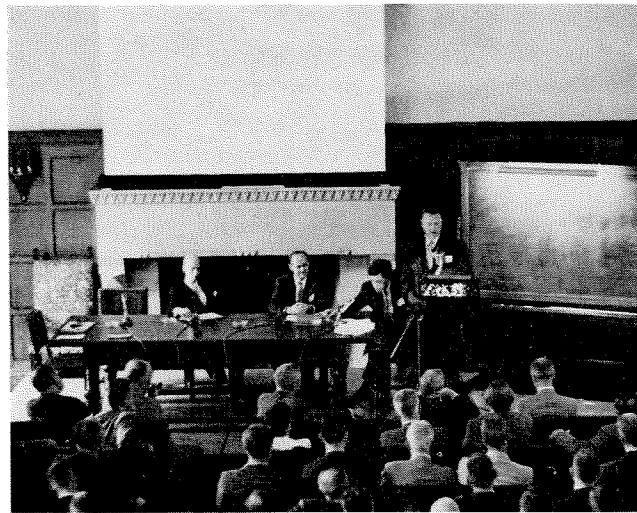
Among the participants were T. Keith Glennan, administrator of the National Aeronautics and Space Administration; William W. Kellogg, head of the planetary sciences group in the engineering division at the Rand Corporation; Abe Silverstein, director of space flight development for the National Aeronautics and Space Administration; Norris E. Bradbury, director of the Los Alamos Scientific Laboratory; and Ernst Stuhlinger, director of the research projects laboratory of the Army Ballistic Missile Agency.

The conference was arranged by the California Institute of Technology Industrial Associates, under the direction of Chester McCloskey. The Industrial Associates are a group of 40 companies which give financial support to the Institute's teaching and research programs.

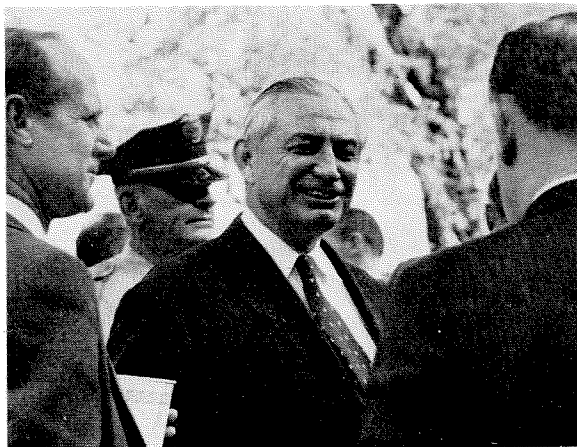
# THE REALITIES OF SPACE EXPLORATION



*Sydney Chapman, chairman of the Central Committee of the IGY, associate of the Geophysical Institute of the University of Alaska, and of the High Altitude Observatory of the University of Colorado.*



*Symposium on "The Future of Space Exploration." Ralph P. Johnson of Thompson Ramo Wooldridge; William H. Pickering, director of JPL; W. Duncan Rannie, Caltech professor of jet propulsion; Louis N. Ridenour, Jr., of Lockheed's Missile Systems Division.*



*W. Randolph Lovelace, II, director of the Lovelace Foundation for Medical Education and Research, discusses his talk on "The Biological Problems of Manned Space Flight."*



*James A. Van Allen, professor and head of the department of physics at the State University of Iowa, in fuller explanation of his report on "The Radiation Environment of the Earth and Other Planets."*