

Twenty-fifth Annual Alumni Seminar

Saturday, May 19, 1962

Dinner and Evening Program

Huntington-Sheraton Hotel, Pasadena

"POSITIVE, NOT NEGATIVE CONSERVATISM" – RAYMOND MOLEY

Raymond Moley, contributing editor of *Newsweek* magazine, is author of *Newsweek's* "Perspective" page. He also writes a widely syndicated newspaper column. For nearly thirty years he was a member of the faculty of Columbia University, holding the title of professor of public law. He is a native of Ohio and now lives in New York City. From 1932 to 1935 he served as adviser on public policies to Franklin Roosevelt and in 1932 organized and headed the Roosevelt "Brains Trust." He left the Roosevelt Administration in disagreement with its policies, and after 1936 became a vigorous opponent of its increasing centralism. A journalist for 28 years, Mr. Moley is essentially a writer on politics in all its aspects. His list of books includes *After Seven Years* (an account of the Roosevelt period), *27 Masters of Politics*, *How to Keep Our Liberty*, and *The Practice of Politics*.

Special Exhibits

JPL model of the Surveyor – New graduate student living quarters – Open House, Firestone Flight Sciences Laboratory – Film "The Universe" – Public Affairs Room, Dabney Hall of the Humanities.

Outstanding Lecture Program

Three morning and three afternoon periods, each with four simultaneous lectures. Each lecture will be given twice during the day.

Alumni outside of southern California who wish to attend the Seminar should write the Alumni Office for reservations.

Seminar Lectures

RIDDLE OF THE CELESTIAL RADIO SOURCES

9:30 A.M. and 2:15 P.M.

*Gordon J. Stanley, Research Associate
in Radio Astronomy*

Many types of galactic objects are now known to emit radio waves. The powerful combination of giant antennas and optical telescopes gives much information on the emitting regions. Mr. Stanley reviews the emission phenomena and the use of the radio identifications in extending our knowledge of the universe.

resulting motion of the image on the retina detrimental to clear vision? Equipment which nullifies the effects of eye movements shows that these motions are essential for the maintenance of sharp vision, and that the eyeball has a position control system which generates the necessary scanning pattern.

SCANNING PATTERNS OF THE EYE

9:30 A.M. and 2:15 P.M.

*Derek H. Fender, Senior Research Fellow in
Electrical Engineering.*

The eye is never at rest. Even when examining a small object, the eyeball is in constant motion. Is the

SPOTLIGHT ON AFRICA

9:30 A.M. and 2:15 P.M.

Edwin S. Munger, Professor of Geography

The dramatic shift of power in the Congo from white minorities to colored majorities is accelerating this process in the neighboring states. Is South Africa a melting pot or a pressure cooker? Professor Munger, having lived for fifteen years in Africa, uses his recent experience to evaluate evolution versus revolution in Mozambique, Angola, and Rhodesia.

XENOPHOBIA OF THE BODY

9:30 A.M. and 2:15 P.M.

*Ray D. Owen, Professor of Biology
Chairman, Division of Biology*

Attempts to transplant living tissues or organs from one individual to another generally fail. This is because the recipient's immunological system recognizes materials in the graft that are foreign to the host and responds by destroying the transplant. The material differences evoking this reaction are inherited qualities, so various that each individual is practically unique. Control of graft rejection is vitally important and, for certain conditions, has now been achieved.

PLANTS CANNOT RUN FOR COVER

10:45 A.M. and 3:15 P.M.

Anton Lang, Professor of Biology

Unlike animals, plants cannot escape their environment. They must live with it, and have learned to do so with great skill. They not only adjust to conditions but use them as signals for such states as growth, rest, flowering, and fruitfulness. Professor Lang describes the unique Earhart Laboratory and its work, which has contributed greatly to our knowledge of the important plant-environment relationship.

RANGERS TO THE MOON

10:45 A.M. and 3:15 P.M.

*Clifford I. Cummings, Lunar Program Director,
Jet Propulsion Laboratory*

Modern Rangers are opening the frontier of moon exploration. Mr. Cummings describes the Jet Propulsion Laboratory's role in the Lunar Exploration Program and shows films of Ranger achievements. Models and actual lunar flight equipment are used to illustrate Ranger's contribution to our space program.

THE SMOG DEMONS: NITROGEN OXIDES

10:45 A.M. and 3:15 P.M.

*Neal Richter, Assistant Professor of
Chemical Engineering*

Growing evidence indicates that nitrogen oxides are significant in air pollution. Professor Richter discusses their origin in combustion processes, and describes the effects of different types of flames. A "howling" burner demonstration shows the effect of burning conditions on nitrogen oxide formation.

THE WINE OF LIFE: NINE GREAT POETS

10:45 A.M. and 3:15 P.M.

Harvey Eagleson, Professor of English

The lives and works of these men have influenced our thought and language, and they reflect unequaled vitality and intensity of experience. Professor Eagleson's vignettes characterize for us the personalities and poetry of Browning, Byron, Burns, Chatterton, Gray, Keats, Shelley, Wordsworth, and Tennyson.

THE SMALLEST INVADERS

11:45 A.M. and 4:15 P.M.

Robert S. Edgar, Assistant Professor of Biology

A bacterial virus multiplies by invading a bacterial cell and forcing this host to do the work of assembling new virus particles. The virus growth is controlled by a linked circle of about a hundred different genes. Professor Edgar shows photographs of remarkable appearance and activity. The study of virus mutants that lack certain essential functions has shed much light on the process of viral growth.

FUNDAMENTAL PARTICLES

11:45 A.M. and 4:15 P.M.

Murray Gell-Mann, Professor of Theoretical Physics

Recent ideas on the behavior of the sub-atomic particles of which all matter is composed. The "strong interactions," including the forces that hold the atomic nucleus together, are seen from a new point of view. All the strongly interacting particles may be bound states of one another generating themselves by a "boot strap" mechanism.

THE RIDDLE OF THE MOON'S CRATERS

11:45 A.M. and 4:15 P.M.

*Eugene M. Shoemaker, Visiting Professor of Geology
Chief, Branch of Astrogeology, U.S. Geological Survey*

The origin of the craters of the moon has been debated for years. Geologic studies of impact craters on the earth provide clues to the riddle and suggest what the first moon explorers should look for.

CAN SOVIET RUSSIA BURY US?

11:45 A.M. and 4:15 P.M.

Horace N. Gilbert, Professor of Business Economics

This may be the real issue in the cold war. With the nuclear stalemate there is increasing realization that Khrushchev's boast should receive greater attention. Professor Gilbert questions Soviet ability to compete successfully with the West. The probability is that we can bury Soviet Russia.