

Twenty-Sixth Annual Alumni Seminar

Saturday, May 4, 1963

Dinner and Evening Program

Huntington-Sheraton Hotel, Pasadena

"HIGHER EDUCATION — CHANGE AT THE TOP" — ROBERT L. MINCKLER

Robert L. Minckler, chairman of Caltech's Board of Trustees and retired president of the General Petroleum Corporation, is a consulting professor of business management at the Stanford University Graduate School of Business, and president of the Los Angeles World Affairs Council. He has served as president and director of the Western Oil and Gas Association and as a director of the American Petroleum Institute. During World War II he was Director of Petroleum Supply for the Petroleum Administration for War, developing a program to meet both military and civilian needs. He has also served as a vice president and director of the California Chamber of Commerce.

Special Exhibits

JPL model of the Mariner II — Open House, Winnett Student Center — Book Store (open all day) — "Clouds of Venus," a film about the Mariner II flight.

Outstanding Lecture Program

Three morning and three afternoon periods, each with four simultaneous lectures. Each lecture will be given once in the morning and once in the afternoon.

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

Seminar Lectures

GOLD MINERS, BOOM TOWNS AND GHOSTS

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

Rodman W. Paul, Professor of History

Are ghost towns the only survivors of the great gold and silver rushes that pioneered the Far West? How does a writer discover why some boom towns lasted for only a hectic moment while others have become permanent and prosperous cities? Professor Paul discusses the enduring versus the transitory features of this dramatic phase of early western history.

THE SEARCH FOR EXTRATERRESTRIAL LIFE

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

Norman H. Horowitz, Professor of Biology

Rocket exploration of the nearest planets, Venus and Mars, began in the fall of 1962. The search for

extraterrestrial life is an important and exciting objective. Dr. Horowitz weighs the evidence for life on Venus and Mars, and describes "Gulliver," a life-detection device designed to operate under Martian conditions.

ENGINEERS AND POLITICS

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

Frederick C. Lindvall, Professor of Electrical and Mechanical Engineering; Chairman, Division of Engineering and Applied Science.

Engineers carry out society's plans. Should they participate more in making them? Why are there so few engineers in our national councils in this technical era? Dr. Lindvall examines the engineer's role and his training for it, both in the United States and in underdeveloped nations.

DOES YOUR TAP WATER FOAM?

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

William R. Samples, Assistant Professor of Civil Engineering

Some of the water you drink has been renovated by man. While purification removes contaminants, in many parts of the U. S. minute quantities of certain detergents remain to cause foaming. Since this could occur locally under special conditions, Dr. Samples will discuss the need for, and problems of, waste water reclamation in southern California and will demonstrate foaming and its elimination.

MINITALK AND MEGATHREAT

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

Albert R. Hibbs, Chief, Arms Control Study Group, JPL

Dr. Hibbs probes three basic questions that underlie our struggle to halt the arms race.

1. Can bargaining with the Russians enhance our national security?
2. Can we advance our national interest through international negotiations?
3. When nations are measured by their military power, what is the role of talk?

THE WORLD NUTRITION PROBLEM— A SCIENTIFIC VIEW

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

Henry Borsook, Professor of Biochemistry

Half of the world's population is malnourished — that is, diseased for lack of essential nutrients. These are the substances that the body needs in small quantity but cannot make for itself. They occur naturally in foods, but most of them can now be produced industrially to great advantage. If industry and science join hands with agriculture, Dr. Borsook believes that the world's nutrition problem can be solved.

WHAT WE LEARNED FROM MARINER II

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

Leverett Davis, Jr., Professor of Theoretical Physics

The Venus probe is yielding new information about high-energy charged particles, cosmic dust, the mass of Venus, and the appearance of the planet at long wavelengths. Dr. Davis will discuss the scientific implications of some of the preliminary results. In addition, he will briefly review the history of the mission and present slides of the spacecraft, its trajectory, and the scientific data it obtained.

IF HANNIBAL COULD DO IT NOW

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

W. Barclay Kamb, Professor of Geology

A crossing of the Alps, formerly a frightening ordeal, nowadays is a fascinating and instructive experience as seen through the eyes of the scientist or engineer. The great barrier to travel and communication has been mastered by modern technology in ingenious ways; at the same time an incredible story of upheaval within the earth has been deciphered — a story that to the discerning eye is plainly written in the magnificent Alpine landscape.

PENNIES, POWER AND POLARIS

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

David C. Elliot, Professor of History

The common market is a great new force. It is changing world perspectives by shifting the centers of power, and it is bringing new politics to old nations. Professor Elliot reviews the economic, political, and military implications of the common market for the outside world.

THE SWITCHBOARD OF LIFE

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

James Bonner, Professor of Biology

The cells of a creature contain all of the information required for its development. A cell does not use all of its information, however. A switchboard mechanism within the cell connects the required information and disconnects the rest. Professor Bonner describes this genetic programming and his methods of investigation.

DEATH OF A STAR

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

Jesse L. Greenstein, Professor of Astrophysics

Hydrogen fuel is consumed as stars release nuclear energy. After all the hydrogen has been exhausted, stellar evolution can proceed on any of several paths. Some stars condense to form compact, high-density bodies known as white dwarfs that cool toward invisibility over billions of years. Dr. Greenstein discusses recent observations that shed new light on the cosmic process.

PHOTON FOOTBALL

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

George S. Hammond, Professor of Organic Chemistry

Quanta of energy may be rapidly passed from one molecule to another like a ball in play. Dr. Hammond shows that this transfer of excitation, after absorption of light, is an essential step in many photochemical reactions.