

Books

SOME RECENT ONES BY OR ABOUT
CALTECH PEOPLE



Autobiography of A Physicist by Jesse W. M. DuMond

Jesse DuMond, professor of physics emeritus at Caltech, wrote this "intellectual" autobiography at the request of the Center for History and Philosophy of Physics at the American Institute of Physics. The two-volume manuscript was completed last year. It has not been published commercially, but copies are available in the AIP library and in the archives of the Millikan Library at Caltech.

The greater part of the 390-page manuscript is, of course, devoted to DuMond's distinguished career and accomplishments as a physicist and his work in the field of x-ray and gamma-ray spectra. But he provides a bonus for the general reader in the first 50 pages of the book, which are devoted to a lively, personal account of his early years.

Born in France to American parents, he was brought up by his grandfather, first in Rochester, New York, then in Monrovia, California. Jesse entered Throop College of Technology in 1912 and was one of eight members of the graduating class of 1916. He went to work in the testing department at the General Electric Company in Schenectady, New York, and

earned an MS in electrical engineering at Union College there. In 1918 he enlisted as an engineer in the U.S. Army and served with the AEF in France. After a postwar stint with the Bureau of Standards in Washington, he came to Caltech in the fall of 1921 as a physics graduate student and teaching fellow. His subsequent distinguished career in physics at the Institute covered almost 50 years. He became professor emeritus in 1969.

INFORMAL EDUCATION: An excerpt from Autobiography of a Physicist

Since one of the purposes of this autobiography is for the information of a group of historians of science especially interested in the history of recent (twentieth century) physics and physicists in the United States, I believe I should mention at this point that Professor Paul Ehrenfest from Leyden had been invited to lecture at Caltech in 1930, shortly before my three-month sojourn at Stanford. I was indeed sorry that the Stanford sojourn obliged me to miss a large part of his lectures which dealt chiefly with his "Adiabatic Hypothesis," Statistical Mechanics and Thermodynamics.

This friendly but eccentric and most remarkable man had created a strong impression upon all of us at Caltech with the vivid and extremely original style of his lectures* and indeed his general behavior. For example, he had explained to me that, at Leyden, he had taken pains to see that none of his children should be permitted to have any formal education whatever.

**I recall that one of these was entitled, "Which one of us likes plum pudding better, you or I?" It was given to illustrate the indispensability of some degree of arbitrariness in the formulation of fundamental definitions, even in the so-called exact sciences. He was essentially a Bridgmanian operationalist.*

In order to circumvent the educational laws of Holland, his practice was to choose one of his own graduate students in physics as a nominal tutor for his children, but would instruct the young man strictly to teach them *nothing whatever*, save at most to suggest to them where they might *themselves* be able to find the answer to any question they might ask of him.

Professor Ehrenfest had brought with him to California his youngest daughter, Anna Galjia (Galinka, for short), a completely charming and very intelligent girl, then about aged 15, if I recall correctly. Once, in her father's absence she had said to me, "Doctor DuMond, isn't it just dreadful that our Daddy would never let any of us children go to school? I feel so ignorant!" (She was by no means ignorant. She spoke four languages fluently and could converse fascinatingly on *any* subject one wished to propose.) Later, in conversation with her father, I told him of what his daughter had said and he looked at me with an enthusiastic smile, slapped his knee and said, "Yes, isn't it wonderful, DuMond; they think they are ignorant and so now they are going to study all their lives!"

Mars and the Mind of Man

by Ray Bradbury, Arthur C. Clarke,
Bruce Murray, Carl Sagan, Walter
Sullivan

Harper & Row\$7.95

On November 12, 1971—the day before Mariner 9 went into orbit around Mars—Bruce Murray, professor of planetary science at Caltech and one of the co-investigators on the Mariner 9 television team, organized a panel discussion on campus on "Mars and the Mind of Man." In addition to Murray himself, the distinguished panel included two science fiction writers, Ray Bradbury and Arthur C. Clarke; Walter Sullivan, science editor of *The New York Times*; and Carl Sagan, who was then at Caltech as a visiting associate in planetary science from Cornell University.

That freewheeling discussion now serves as an introduction to this book for the general reader. It presents the thoughts, opinions, and reflections of the five panelists more than a year later, after Mariner 9 had finally expired, having sent us more than 7,000 pictures and a plethora of scientific data on Mars.

This fascinating book also includes about 50 of the most spectacular Mars pictures, selected and captioned by Murray and Sagan.



Is There Life on Mars?
The Incredible Photographic Mission of Mariner 9
by *Graham Berry*
The Ward Ritchie Press \$4.95

If *Mars and the Mind of Man* is a book for the general reader, then Graham Berry's *Is There Life on Mars?* is for the even more general reader. Berry, who is director of Caltech's News Bureau, is an old hand at interpreting science for the layman, and his book is a crystal-clear account of the Mariner 9 Mars mission. Short, concise, and complete, it contains about 25 of the best Mars pictures, with extremely informative captions. As to the answer to the question proposed in the book's title—check it out for yourself.

Geothermal Energy
Edited by *Paul Kruger and Carel Otte*
Stanford University Press \$17.50

Geothermal Energy contains the proceedings of a special symposium held at the annual meeting of the American Nuclear Society in June 1972. Co-editor Carel Otte (MS '50, PhD '54) is a vice president and manager of the geothermal division of the Union Oil Company of California.



Systems Concepts: Lectures on Contemporary Approaches to Systems
Edited by *Ralph F. Miles Jr.*
John Wiley & Sons \$13.50

Ralph Miles, a member of the technical staff of the Jet Propulsion Laboratory and a Caltech alumnus (BS '55, MS '60, PhD '63), organized an extremely successful series of lectures on systems engineering in 1971, when he was serving at Caltech as a visiting assistant professor of aeronautics and environmental engineering science. The ten lectures in that series, edited by Miles, have now been collected in this volume in the Wiley series on Systems Engineering and Analysis.



Economic Aspects of Television Regulation
by *Roger G. Noll, Merton J. Peck, and John J. McGowan*
Brookings Institution \$8.95

Economic Aspects of Television Regulation is a painstaking economic analysis of the television industry and a study of how government policies (and most specifically the Federal Communications Commission) shape the performance of the industry. The book is the seventh in the Brookings Institution series of Studies in the Regulation of Economic Activity. This program of research focuses on public policy toward business. It is supported by a Ford Foundation grant, and its co-director (and co-author of this volume) is Roger Noll. A Caltech alumnus, BS '62, and a member of the Caltech faculty from 1965 to 1971, Noll served as a Brookings senior fellow from 1970 to 1973. This summer he rejoined the Caltech faculty as a professor of economics.

One of Noll's activities during the coming year will be to direct a study to determine whether the federal government can effectively increase the pace of technological innovation in the United States—and if so, how. Ten Caltech economists, historians, and political scientists will be involved in the project, which is funded by a \$127,800 grant from the National Science Foundation as a part of its new Technological Assessment Program.