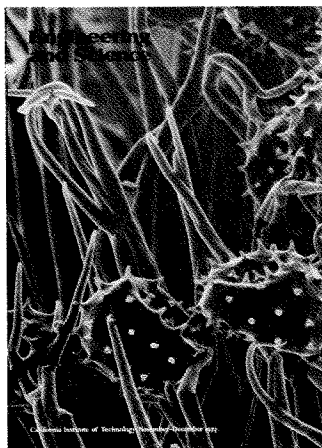


## IN THIS ISSUE



### Small World

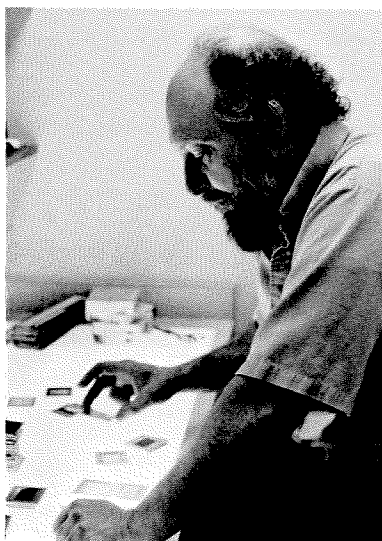
On the cover—a view through the eye of a scanning electron microscope (SEM) of the pollen on the pistil of a hibiscus flower. At a magnification of about 150 times and in the full splendor of three dimensions, this surpassingly beautiful picture reveals an aspect of the flower never observed by the naked eye, or by the light microscope. What the ordinary camera would see is a cluster of bright objects on the pistil of the blossom (below).

For the cover photo, the SEM was operated by Jean-Paul Revel, professor of biology (right), who was testing it out before going into the more serious matters of photographing cell membrane surface interactions,



which are his chief research interest. Among the other oddments he used for tryouts of the SEM's capabilities were a razor's edge, a bee's eye, the head of a bug, and the anther of a knotweed flower. "Ruffles and Flourishes" (page 4) includes examples of the latter two, along with views of single cells caught in the act of ruffling along their edges.

Revel is a native of Strasbourg, France, where he earned a BSc at the university in 1949. He came to the United States in 1953, expecting to stay two or three years while he earned a PhD at Harvard. The PhD was granted in 1957. He returned in 1959 as a faculty member and remained until he came to Caltech in 1971.



### Active Chemist

Aron Kuppermann, professor of chemical physics, is a native of Brazil. He received a chemical engineering degree in 1948 from the University of Sao Paulo, and a civil engineering degree in 1952—when he was already an assistant professor of chemistry at Sao Paulo's Aeronautic Technological Institute. Deciding that he wanted to know more about modern physical chemistry in general and radiation chemistry in particular, he went to the University of Edinburgh for a year as a British Council Scholar and then came to the United States. He was awarded a PhD at Notre Dame in 1956 and taught at the University of Illinois until he came to Caltech in 1963. Since then he has done major research on electron scattering and the dynamics of chemical reactions. "An Insight into Chemical Reactions" (page 16) describes some of his latest work.

### Student Works

It's a pleasure for *E&S* to present three stories in this issue either by or about Caltech students. "A New Look at Our Restless Earth" (page 9) reports on the research of Bernard Minster, graduate student in geophysics. Gary Prohaska, who wrote "An Insight into Chemical Reactions" (page 16), graduated last June with a BS in astronomy. And Bob Kieckhefer, a senior in geophysics, tells of his summer work in "Project Oldstone—Greenland 1973" (page 26).

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PICTURE CREDITS: Cover, 4-8—Jean-Paul Revel/12, 14, 28-30—James and Ingelore Bonner/21—NASA/22—Associated Press/26-27—Bob Kieckhefer/All others—Floyd Clark.

Published seven times each year, in October, November-December, January, February, March-April, May, and June, at the California Institute of Technology, 1201 East California Boulevard, Pasadena, California 91109. Annual subscription \$4.50 domestic, \$5.50 foreign, single copies 65 cents. Second class postage paid at Pasadena, California, under the Act of August 24, 1912. All rights reserved. Reproduction of material contained herein forbidden without authorization.  
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