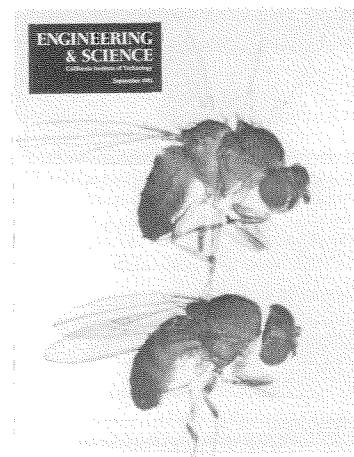


In This Issue



Fly Paper

On the cover — two specimens from the extensive Caltech stocks of *Drosophila melanogaster* that are used all over the world for the study of genetics. The fly at the bottom is a normal, two-winged insect, but the one at the top is a mutant with four wings. It is just one example of the many mutants developed, studied, and preserved in the Institute's fly repository over the last 50 years. In "The Second Golden Age of Drosophila Research" on page 13, the director of Caltech's News Bureau, Dennis Meredith, describes some of the current research — and reassures us that there is no relationship between *Drosophila* and the infamous Mediterranean fruit fly.

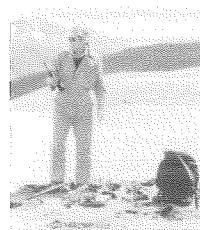


Brownian Motion
Last April, members of the Caltech community received a note from Provost John

D. Roberts announcing an opportunity to hear a lecture by Caltech's former President Harold Brown. They turned out in force to hear him discuss "National Security and International Crises: The World in the 1980s" — one of his first public addresses since leaving office as Secretary of Defense in the cabinet of President Jimmy Carter. An adaptation of that talk appears on page 22.

Introducing Brown, Roberts said in part, "Harold's Caltech colleagues were hardly surprised when Jimmy Carter began to consult with him before the presidential election in 1976. And almost all of us were pleased for him, if not for Caltech, when he was selected to be Secretary of Defense. We were relieved to know that a person of his knowledge, intelligence, and experience was going to be in that position. Four years have passed, during which he has been expected to wrestle with SALT II, the Iranian hostage crisis, the MX missile proposal, the invasion of Afghanistan, and a host of other problems. Now he is what the stage folk call 'at liberty,' and it will be interesting to see where he goes from here."

"At liberty" is, of course, a relative term; in addition to being Distinguished Visiting Professor of National Security Affairs at the Johns Hopkins University School of Advanced International Studies, Brown keeps very busy with his own consulting firm in Washington, and he serves as a consultant and/or board member for a number of corporations.



Blast Off!
Fortunately, Sue Kieffer was not right on the scene when Mount St. Helens erupted in May 1980.

But she had been there just before, to study the volcano as it began to awaken, and returned the day after the main blast to interpret the flow

dynamics from the patterns of destruction. In "The Blast at Mount St. Helens: What Happened?" on page 6, she describes some of the experiences of "being there" and her theoretical model of the massive blast. The article is adapted and updated from her talk at Seminar Day last May.

Kieffer is currently a geologist with the Branch of Experimental Geochemistry and Mineralogy of the U.S. Geological Survey in Flagstaff, Arizona. She received her MS in geological sciences from Caltech in 1967 and her PhD in planetary sciences in 1971. She was named an Alfred P. Sloan Fellow in 1977-79, received the Mineralogical Society of America Award in 1980, and was the first W. H. Menard Lecturer of the U.S.G.S., a lectureship to emphasize the importance of basic research in applied science.

Drop Us a Line

With this issue, *E&S* offers its readers a few changes. Thanks to designer Doyald Young, the magazine has had a facelift that we hope will make what we print more attractive to look at and easier to read. We also have a new last-page-of-the-magazine feature called "Random Walk," in which you will find interesting items about faculty, alumni, and campus events. We'll continue our coverage of the research and ideas of the people who teach and study at Caltech, told mostly in their own words. We'd like to add a regular "Letters" page, and for that we need your help. We can't guarantee to print everything we receive, but we'd like to hear from you.

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