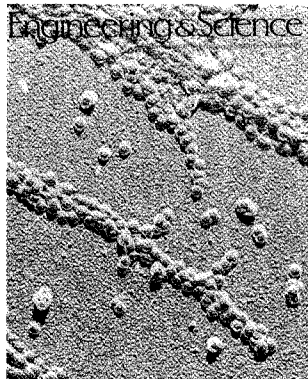


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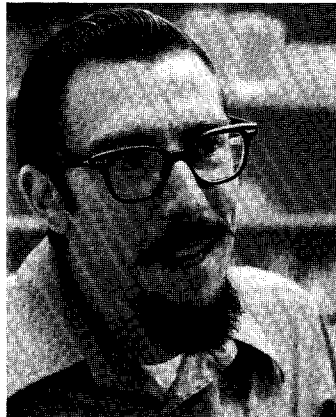


Small Type

On the cover — an electron micrograph of Sindbis virus budding from a chick embryo cell six to seven hours after infection, magnified about 40,000-fold. Sindbis virus is made up of a single thread of genetic material covered with a protein shell, and enveloped in a lipoprotein membrane. This membrane is acquired as the virus buds through the cell surface. Although Sindbis virus is not a human pathogen, it is closely related to numerous viruses causing disease in man, and has been used as a model system for studying both viral replication and membrane biogenesis.

In a Watson lecture last spring, James H. Strauss, associate professor of biology, discussed Sindbis virus as well as many other viruses, and what he and other virologists know — and are trying to find out — about them. "Viruses of Mice, Mosquitoes, and Men: A Primer of Virology" on page 11 is adapted from that talk.

Texas-born Strauss came to Caltech in 1960 to work toward a PhD in biochemistry, which he received in 1967. He then spent three years as a research fellow at Albert Einstein College of Medicine, where he studied the replication and physical properties of Sindbis virus. He returned to Caltech as an assistant professor of biology, and became associate profes-



sor in 1975. His chief research interests are in the molecular biology of animal virus replication and the structure of the cell surface and its modification by virus infection.

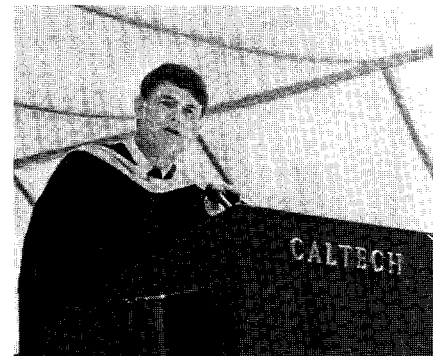
Life in the lab for Strauss involves looking at a lot of very small things, but for recreation he widens his horizons considerably. He and his wife, Ellen (who is also a Caltech graduate and a member of the biology faculty), are dedicated to the proposition that camping is the best way to go and taking superb photographs of their outings is the best way to prove it.

The China Syndrome

The study of earthquakes and their effects has a long history in China, partly because that country occupies one of the world's most seismically active regions — a fact that has made the Chinese very receptive to the possibility of earthquake prediction and active in finding ways to achieve it. Fortunately, the recent thaw in diplomatic relations between the People's Republic and the United States has made it possible for American scientists and engineers to learn more about what the Chinese are doing and how successfully.

Among the Caltech faculty who have visited China to evaluate not only prediction but also geological effects and con-

struction practices and damages are geologist Clarence Allen and engineers George Housner and Paul Jennings. "The Real China Syndrome: Earthquake Prediction and Engineering in the People's Republic" on page 17 is a review by Dennis Meredith, director of Caltech's News Bureau, of some of their oral and written reports. The article is illustrated with photographs of some of the devastation caused by the Tangshan earthquake of July 1976, the largest earthquake to strike a populated area in the 3000 years of Chinese history.



Commencement 1979

For the last several years those in charge of choosing Caltech's commencement speakers have been reaching into the ranks of their colleagues and coming up with winners — Feynman, Gray, DuBridge, and Delbrück, for example. This year was no exception, with Bruce Murray, professor of planetary science and director of the Jet Propulsion Laboratory, taking over the podium.

Murray has wide-ranging social interests and concerns and considerable ability to express himself. He combined those two attributes in June to analyze what makes Caltech tick as well as it undoubtedly does and what it is going to have to do in the future if it is to continue to function with distinction. "The Challenge of Success" appears on page 6.

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