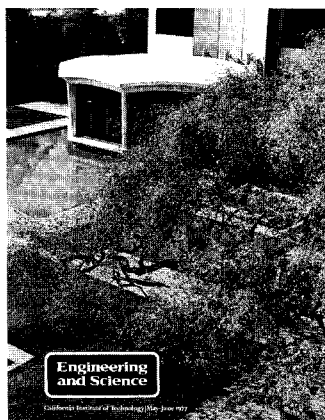
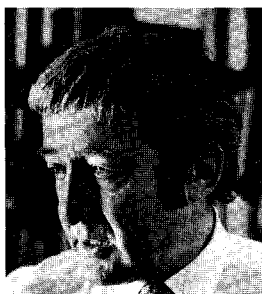


In This Issue



Progress Report

On the cover — A bird's-eye view of two campus landmarks: Millikan Library, which is currently celebrating its tenth birthday, and the 400-year-old Gates Oak, which is recovering nicely from a near-fatal attack of oakroot fungus.



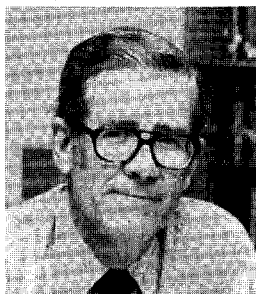
Another Look

There's nothing unusual about predicting man's future, even in 100-year segments. Publicly revising the prophecies may be a bit rarer. Nevertheless, it has happened twice in the 20 years since three Caltech professors — James Bonner, Harrison Brown, and John Weir — first organized a conference to inquire into the problems and possibilities they saw looming up ahead. They called it *The Next Hundred Years*, and in due course it was followed by *The Next Ninety Years* and, this spring, by *The Next Eighty Years*.

Harrison Brown led off the most recent of these meetings with a long look at the 20- and 10-year-old forecasts, analyzing where they were wrong, where they were right, and why. "*The Next Eighty Years*" on page 3 is adapted from that talk.

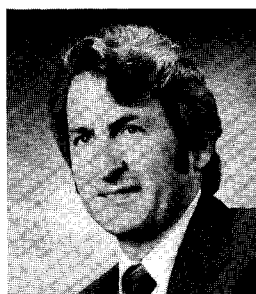
Energy Policy

The importance of establishing a national energy policy has become a major subject for discussion and debate in the U.S. One man who is deeply concerned is John



Teem, who is on campus this year as a Sherman Fairchild Distinguished Scholar. "Why Don't We Have a National Energy Policy?" on page 23 is adapted from his recent Watson Lecture.

Teem is spending a lot of time consulting on energy projects at Caltech and JPL, bringing to them the considerable expertise and experience he has acquired most recently in jobs at the national level. From 1975 to 1976 he was assistant administrator for solar, geothermal, and advanced energy systems for the Energy Research and Development Administration. From 1973 to 1975 he was assistant general manager for physical research for the Atomic Energy Commission, and he received their distinguished service award in 1974.



Truth and Consequences

Scientifically accurate earthquake prediction seems to be an increasing possibility, and one that has already begun to generate studies of the implications for society. A model of its kind, the first empirical assessment of likely responses to such prognostication has been carried out over the last two years by a research group from the University of Colorado's Institute

of Behavioral Science. The project was headed by two sociologists — J. Eugene Haas, professor of sociology and program director of the Institute's research program on technology, environment, and man; and Dennis S. Mileti of Colorado State University — and financed by a grant from the National Science Foundation.

Since March 1975 the group has been collecting data by means of more than 1000 interviews. When Caltech's Earthquake Research Affiliates recently held a Conference on the Nature of Great Earthquakes, they invited Haas to describe some of the results. "The Impact of Earthquake Prediction" on page 7 is adapted from that talk.



Life Line

Biologically, the partnership of two dissimilar organisms in a mutually beneficial relationship is called a symbiosis. Academically, the process can be described as interdisciplinary. In the case of biologist Lynn Margulis, who is spending several months in Caltech's geology division as a Sherman Fairchild Distinguished Scholar, both words apply.

Margulis is interested in the early evolution of life on the earth, and she traces some of its history in the very oldest rocks. Among the things she finds is evidence for symbioses between microorganisms of distinct and ancient ancestry, some of which led to plant and animal cells. At a recent Athenaeum Lecture she described some of the new tools and concepts she is using to unravel our previously unrecognized legacy of life from Precambrian times.

"Life on the Early Earth" on page 13 is adapted from that talk.

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