those already built by Soviet and East European groups.

Data from Simpson's instruments will be routed through the Central Research Institute in Hungary and the Max-Planck Institute in Lindau, West Germany. They will be shared with scientists around the world and will also be used to determine how close to Halley's comet the European spacecraft and two Japanese spacecraft will be allowed to approach.

Simpson was working with the Soviet scientists at a time when U.S.-Soviet relations were at a low ebb and when a debate was just beginning on the potential military uses of space. The collaboration was endorsed by government authorities on both sides, but the scientists kept a low public profile in an effort to keep the political spotlight off the endeavor.

—COLIN NORMAN

Telescope Gets Largest Private Gift Ever

In what is by far the largest private donation ever made to a scientific project, the W. M. Keck Foundation of Los Angeles has pledged $70 million to the California Institute of Technology for the construction of the world's largest optical telescope: a 10 meter, "new technology" telescope to be built on the summit of Hawaii's Mauna Kea. It will be known as the W. M. Keck Observatory.

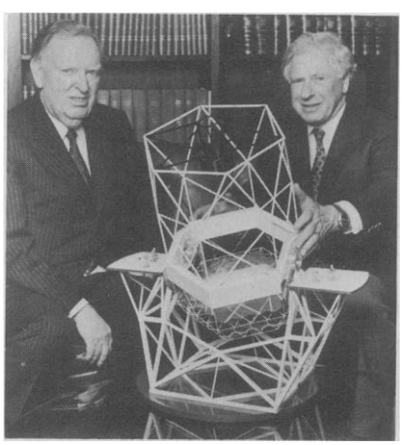
Caltech will be an equal partner in the project with the University of California (UC), even though the instrument was conceived as an all-UC telescope and has been under development since 1977 by a team of UC astronomers led by Jerry E. Nelson of the Lawrence Berkeley Laboratory.

Their key technical achievement is the "segmented" mirror design, in which a mosaic of 36 hexagonal mirrors will be continuously adjusted by computer to keep a precise, 10-meter optical surface. This allows for a much lighter support structure than telescopes normally require.

Their ambition had been to build the $85-million telescope without recourse to federal funding. Partly this was a matter of institutional pride, but it was also to avoid any pressure to maximize the number of observers; the university has accordingly spent the last several years in search of a private philanthropist.

In April 1984, that effort was partially rewarded when an elderly California widow named Marion Hoffman pledged $36 million, on the condition that the facility be named the "Maximillian and Marion Hoffman Observatory." UC President David P. Gardner accepted immediately.

However, $36 million is still not $85 million, and it was becoming clear even then that the UC was not going to make it alone. In fact, the UC fund raisers were already making overtures to Caltech, which operates the



Howard B. Keck (left) and Caltech president Marvin Goldberger with a model of the new telescope.

Hale Observatories and which has excellent connections among the private foundations in southern California. The offer was 25 percent of the telescope time for $25 million. Caltech accepted enthusiastically.

As it happened, the Caltech fundraisers did not have far to look. Howard B. Keck is the son of W. M. Keck, founder of Superior Oil Company; he is currently president of the W. M. Keck Foundation, established by his father in 1954, and he sits on the Caltech board of trustees. On 13 December 1984, his foundation offered Caltech $70 million to build "the W. M. Keck Observatory."

This was disconcerting, to say the least, but it was hardly an offer that UC could refuse. The details of the new agreements are still in negotiation, but essentially Caltech will fund the construction of the telescope—it will find the other $15 million somehow—while UC will pay for the operation of the observatory once it is built. Moreover, after some 10 percent of the telescope time is given to the University of Hawaii, which owns the Mauna Kea site, Caltech and UC will split the remainder 50:50.

"It's fair to say that people here are somewhat disappointed," says Barbara Schaefer, a research associate with the UC group. "But we're also excited because we finally know for sure we have the funds to build it." Construction should start in 1986, with operations beginning in 1992.

Meanwhile, however, there is the matter of Mrs. Hoffman's $36 million. There is no way now that the university can meet the terms of the agreement, and Mrs. Hoffman herself died last year. The UC administration is working with her estate to figure out what to do with the money.

—M. MITCHELL WALDROP

Twin Information Bank

Although twins, particularly identical ones, provide extraordinarily rich research material, there is no central source of information on this population. But now a new foundation—established by twins—is planning to set up a computerized data bank about twins and other multiples that will be of use to scientists, parents, and anyone else interested in the subject.

The president of the Twin Foundation, author Kay Cassill, describes the repository as a "Smithsonian" of educational, historical, sociological, and scientific information about twins.

The foundation is currently seeking to raise money for the project and it plans to contact a wide array of scientists to gain information about their research and their data needs. Thomas Bouchard, director of the University of Minnesota's long-running study on identical twins reared apart, is on the foundation's advisory board.

Cassill says the foundation, based in Providence, Rhode Island, has been getting a steady stream of inquiries from twins, parents of twins, and others such as psychiatrists doing therapy with twins. So far, the group has information on about 5000 individuals. In addition to the information bank and research library, the foundation plans to sponsor seminars which bring together scientists, teachers, parents, and twins.

—CONSTANCE HOLDEN