

The Month at Caltech

Survey of Seniors

In May 1971 the Educational Testing Service conducted a survey of seniors at 94 institutions, including Caltech. The results have now been published, and though some of them reveal little that was not already known (for example, that 80% of Caltech's seniors plan to go to graduate school), some interesting trends did show up.

Many college students do not adhere to the orthodox religious backgrounds in which they were reared. This is even more true of Caltech students, and the trend increases from freshman to senior year. On the national average, the trend has been accelerating: College students in general have become like Caltech freshmen of a few years ago, and Caltech seniors have moved even further away from their family upbringing.

Caltech students often have been accused of knowing little beyond their courses, but the ETS study shows that this is not the case: 60% of Caltech seniors regularly read books that are not connected with their courses, compared with 45% of the national sample; and 57% of the Caltech seniors polled read scholarly or professional works on their own, as opposed to 48% of the comparison sample.

Caltech seniors were more active than their counterparts nationally: 43% of the Techers (as against 35% nationwide) were elected as officers of student organizations; 16% initiated or organized a student movement to change institutional procedures (as opposed to only 4% nationwide); and 15% were elected or appointed to a college office with power to influence policy, as opposed to 5% nationwide.

The Caltech seniors thought well of the school at which they had studied for four long years: 91% felt that they were "not treated as numbers."



When Fleming House picks up a trophy, they do it in a big way.

We've Got Their Number

Starting with a \$50,000 grant from the Union Pacific Railroad Foundation, Caltech plans to modernize and computerize student record keeping. The consolidated, centralized system will improve the flow of information among the Registrar's, Deans', Graduate, and Admissions Offices. Automated processing should improve the scheduling of classes and final exams, maximize efficiency of classroom usage and instructional time, eliminate (or minimize) class schedule conflicts, and provide data for making academic plans and forecasting space and budget needs.

Cannon Law

Upon discovering that Southwestern Academy in San Marino had a spare cannon it was trying to dispose of, Caltech students in Fleming House decided to seize the opportunity to escalate interhouse warfare on the campus by several orders of magnitude. Two weeks of preparation and construction resulted in completely rebuilt wheels for the 85-year-old siege rifle, and general readiness for transport of the thing from the Southwestern Academy's front lawn, where the cannon had rested for 40 years.

One 3 a.m. Fleming struck *en masse*. With a veritable army of about 75, they dragged the big gun three miles from San Marino to the Olive Walk. In the weeks since, the residents of neighboring Page House have become noticeably more nervous as work progressed on restoration of the gun. At this writing it hasn't been fired, but no one is making any guarantees.

The Month at Caltech . . . *continued*

Record Breakers

The class of 1976, 231 strong, is the largest in Caltech's history, handily surpassing the 220 freshmen who arrived in 1970.

Why so many? Late acceptances did it. After the May response deadline, the Admissions Committee began to notify people on the waiting list because there were still some vacancies. The waiting-list students thereupon matriculated at a much higher rate than anyone had expected.

The ratio of men to women in the new freshman class is 205 to 26, about the same as for the last two years. (Women were first admitted in 1970.) Past experience predicts that, of the 231 members of the class of '76, about 145 will receive BS degrees at Caltech in the usual four years, and an additional 15 will take five years (or more) to do it. Of the remaining 71, most will receive bachelor's degrees from other schools.

Mariner 9 Retires

After 698 orbits of Mars which yielded photographs and other data of unprecedented volume and clarity, Mariner 9 finally ran out of gas.

Specifically, its supply of nitrogen, used as attitude control fuel, was exhausted, and the satellite went into free spin.

After the spacecraft had returned 7,329 pictures, and stayed in orbit for almost a year (about eight months past the completion of its primary mission), JPL controllers finally had to send the command to shut the transmitters off.

Co-op Housing

In an effort to relieve the crush on the seven student houses, and to provide a supposed diversity of life styles, Caltech has gone into the co-op business. About 26 students now share the rent on three large houses just north of the campus on Holliston Avenue. They also share responsibilities for cooking, maintenance, and all of the other joys of householding.

If the experiment proves successful, several more Institute-owned houses may be converted into co-ops next year.

Black Hole?

"It is almost inescapable that (the X-ray source) Cygnus X-1 is a black hole," Dr. Richardo Giacconi of the American Science and Engineering Laboratory in Boston told a meeting of the American Astronomical Society at Caltech in October. Data from an X-ray telescope orbiting on the Uhuru satellite, have convinced some other astrophysicists that the source could be a star in the last stage of gravitational collapse.

Because of its intense gravitational field, a black hole emits no light, and in fact "swallows" any light coming near it. The only way now known to locate a black hole is if it forms a binary system with a visible star. By observing the visible star, the mass of the invisible partner can be inferred. A relatively small object, one with one to three times the mass of the sun, would most likely be a white dwarf or a neutron star. Something larger, however, could be a black hole.

Noyes Annexed

When earthquake damage forced evacuation of the Gates chemistry labs almost two years ago, the freshman chemistry labs had to be scattered all over the campus. With the completion of the Noyes Annex in September, frosh chemistry finally has a new home.

The annex contains two large student labs, a seminar room, and instrument rooms and support facilities. Construction costs for the complex were held to \$350,000 by tapping into existing utilities in Noyes.

After 52 years of service to freshman chemistry, Gates finally stands vacant. Present plans call for reinforcing the building to bring it up to safety standards, and remodeling the inner structure to serve as needed office space.



After being scattered over the campus for the last year, the freshman chemistry labs are back in one place.

Faculty Honors

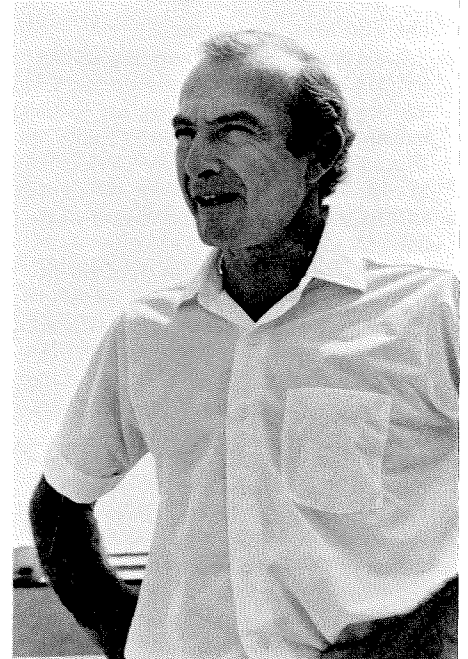
One Small Step

While hurrying across a park on the University of Chicago campus this fall—on his way to give a paper—Nobel Laureate Richard Feynman did not notice that the sidewalk he was about to cross was a few inches higher than the lawn. He tripped over the curb, and shattered his kneecap in the resultant fall.

Two passersby carried him to the hospital, where doctors removed what remained of his kneecap, and placed his leg in a cast. Confined to bed for a week, Dr. Feynman consoled callers by reminding them that basketball stars have learned to play without kneecaps, so a physicist should be able to do at least as well. In late November he was, by his own estimate, 98.9 percent recovered.



Alan R. Sweezy, professor of economics, has been elected chairman of the Planned Parenthood Federation of America.



Sheldon K. Friedlander, professor of chemical and environmental health engineering, has been appointed consultant to the Los Angeles County Air Pollution Control District.

JPL Renamed

As a rider to a bill to create a national park to be named for former President Eisenhower, Congress recently passed a measure to rename Caltech's Jet Propulsion Laboratory the "H. Allen Smith Jet Propulsion Laboratory." The change honors the Congressman from California's 20th district, who is retiring this year after 16 years in the House of Representatives. The bill was signed into law by President Nixon and will take effect on January 4, 1973.

JPL is owned by NASA and operated for NASA by Caltech, so Congress has the right to rename JPL as it pleases—but the action nevertheless caught JPL and Caltech completely by surprise: Most people learned of the name change by reading it in the newspapers.

Student and faculty reaction was generally opposed to changing JPL's name, and a student group has been circulating a petition asking that the change be rescinded. "It's not that we are opposed to H. Allen Smith personally," said one of the student organizers, "but we don't think the name change is necessary. We like JPL. But if the name has to be changed, it should honor someone who has done a lot for the space program, and there are a lot of people—scientists and astronauts—who have done quite a bit more than H. Allen Smith."



Gerald J. Wasserburg, professor of geology and geophysics, has received NASA's Distinguished Public Service Medal.