CALTECH NEWS

Volume 18, No. 4, August 1984

Caltech confers its highest honor on four alumni

Caltech conferred its highest honor — the Distinguished Alumni Award — on four of its graduates at Alumni Seminar Day. The recipients were Arnold O. Beckman (PhD '28), founder and chairman of Beckman Instruments and chairman emeritus of the Caltech Board of Trustees; Carel Otte (MS '50, PhD '54), president of the Geothermal Division of Union Oil Company of California; Eberhardt Rechtin (BS '46, PhD '50), president and chief executive officer of The Aerospace Corporation; and physicist George Zweig (PhD '64), a staff member of the Los Alamos National Laboratory and a visiting associate at Caltech.

Beckman founded his company in 1935 and left the Institute chemistry faculty in 1940 to devote full time to it. Beckman Instruments went on to become a major manufacturer of instruments and related products for medicine, science, industry, environmental technology, and other fields. In 1982 the firm merged with Smith-Kline Corporation to form SmithKline Beckman, one of the world's leading health care and life science companies.

Beckman was chairman of the Caltech Board of Trustees from 1964 to 1974, when he was elected chairman emeritus. In 1980, his friends endowed the Arnold O. Beckman Professorship of Chemistry at the Institute in his honor. He has received many other honors for his technical, business, and civic contributions — among them, the Hoover Medal of the American Association of Engineering Societies and the Industrialist of the Year Award of the California Museum of Science and Industry.

In giving him the award, the Institute made its first exception to a

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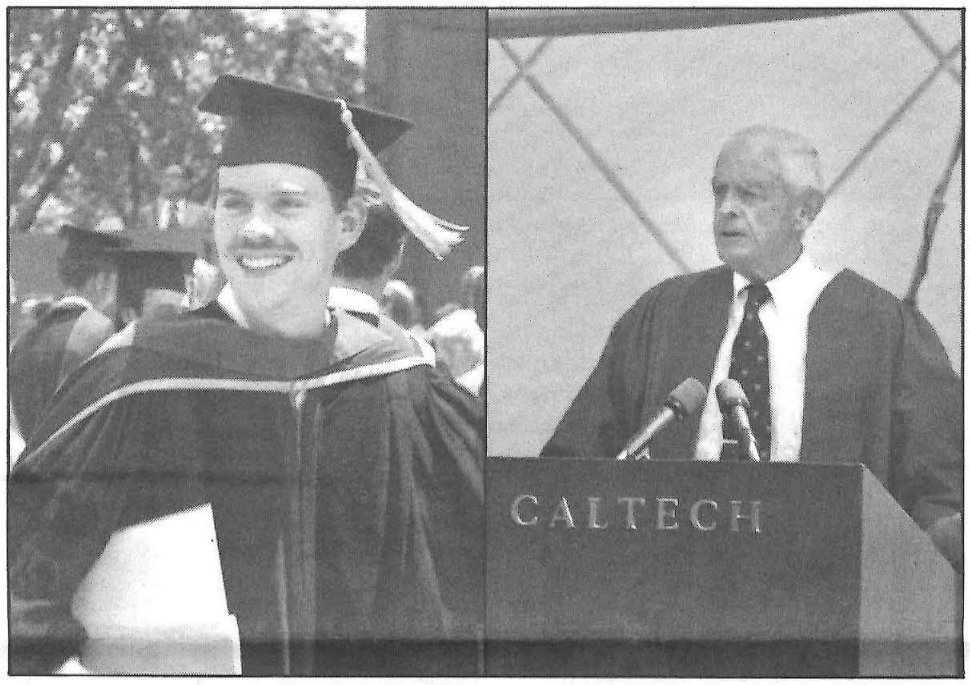

Kenneth McCue is the happy bearer of a new PhD in the social sciences. Right: Thomas J. Watson, Jr., urges young people with technological knowledge to bring their influence to bear on the political process.

Get involved in political process, Goldberger urges graduates

Caltech President Marvin L. Goldberger welcomed 485 recipients of degrees at Caltech's commencement on June 8. The Fleming House cannon added its welcome with a boom at the ceremony's conclusion.

Granted by the Institute were 213 BS, 147 MS, 2 Engineer, and 123 PhD degrees. Those graduating in science and in engineering were almost equal in number, and a few additional students received degrees in the humanities and social sciences. Of the 213 men and women receiving BS degrees, 91, or 45 percent, graduated with honors.

Goldberger presented the Frederic W. Hinrichs, Jr., Memorial Award for leadership, and for contributions to the student body, to Candice McCoy. McCoy was 1983-84 president of ASCIT, a leader in the 1984 Faculty-Student Conference, and a member of the Caltech Y Executive Committee and of the Biology Undergraduate Commiteee.

Active in campus musicals and in a community dance group, she conducted research in biology, including on campus on a Summer Undergraduate Research Fellowship (SURF). She plans to go on to medical school.

The Milton and Francis Clauser Doctoral Prize for the greatest degree of originality in PhD research was awarded by Goldberger to Lawrence C. Katz for his neurobiology thesis entitled "Intrinsic Connectivity of Identified Projection Neurons in Cat Visual Cortex Brain Slices."

In his concluding remarks to the graduates, Goldberger said, "Students used to be insulated from problems outside the campus, but this is no longer the case. How can you contribute to solutions? The conventional ways have been as entrepreneurs, or through conducting research at universities, and replicating yourselves through your students. I urge you to think about a

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Watson: graduates' influence needed in Washington

Caltech graduates, and other informed young people with clear insight into technological issues, have a special responsibility to use their knowledge to influence the political system on the arms race and other critical matters, Thomas J. Watson, Jr., chairman emeritus of IBM and former U.S. ambassador to the Soviet Union, told Caltech graduates at the Institute's 90th commencement exercises.

"I graduated into the world of 1937," said Watson, who has been a member of the Caltech Board of Trustees for 21 years and is now a Life Trustee. "The world was our oyster. But it is possible for your world to be snuffed out by a stroke of lightning. If things are to change, you must help to bring it about.

"The Soviet Union and the U.S. are involved in an inexorable arms race. Everything we do and are is in jeopardy. Your generation has the most to win or lose, but you are the best equipped young people our country has produced, so you are the best equipped to win, and to win the world."

Speaking of the dangers of nuclear war, Watson said, "Nuclear war strategists believe we can win a war, but in reality, nuclear arms are only effective as a deterrent, as a formula for national suicide. One percent of the arms of either side has the power to destroy 70 to 80 percent of the cities in the other country, and to eliminate meaningful civilization there. And the situation is complicated because our political systems are totally incompatible.

"We cannot make the Russians like we are. Thus, this is the time for

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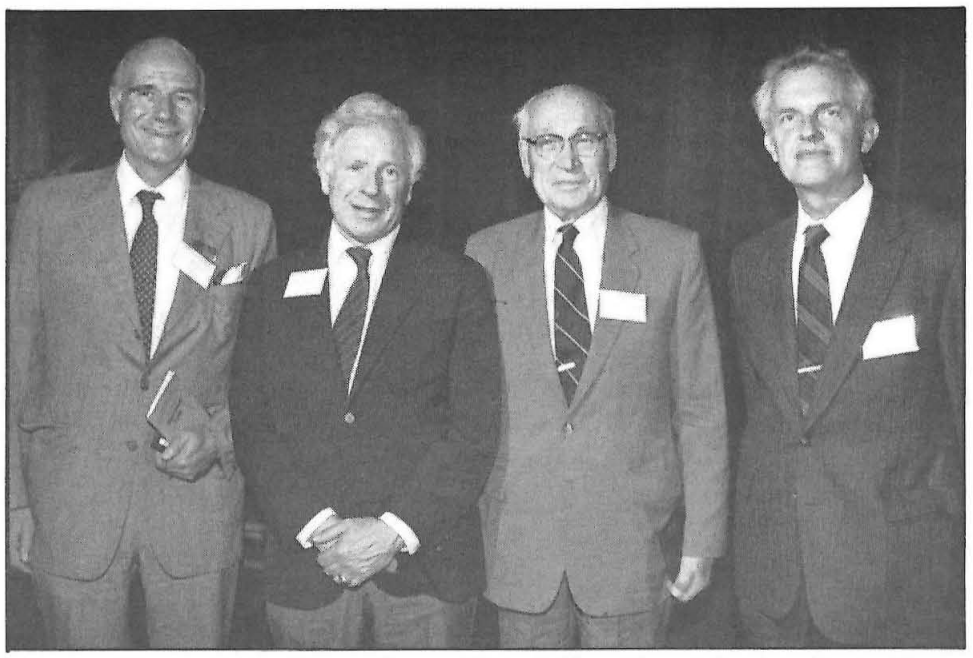
A last-minute illness kept William A. Fowler (the Institute Professor of Physics, Emeritus) from delivering the keynote address on Seminar Day. But alumni were well pleased with the presentation by David Politzer, professor of theoretical physics, who substituted on a day's notice with a talk on "Willy's Legacy: The Physics of the Big Bang."



President Marvin L. Goldberger (second from left) at Alumni Seminar Day with three of Caltech's four 1984 Distinguished Alumni: Carel Otte, Arnold O. Beckman, and Eberhardt Rechtin. George Zweig was unable to attend.

Caltech honors four distinguished alumni

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policy that members of the faculty, staff, or Board of Trustees are ineligible to receive it.

Otte is president of the Geothermal Division of the Union Oil Company of California, where he has directed geothermal activities since 1962. Under his leadership, Union Oil has developed The Geysers field in Sonoma County, California, into the world's largest producer of geothermal energy. The division has also discovered two geothermal fields on Luzon Island in the Philippines, making that country the second largest producer in the world.

A native of the Netherlands, Otte came to the United States in 1948, after earning a bachelor's degree in geology from the University of Amsterdam. He was employed by Shell Oil and by Pure Oil, until the latter merged with Union Oil Company of California.

In 1980-81, Otte was president of the Caltech Alumni Association. He served as chairman of the U.S. Department of Energy Advisory Committee on Geothermal Energy and was a Distinguished Lecturer for the Society of Petroleum Engineers.

Rechtin was employed at JPL from 1949 until 1967. He was an assistant director of the lab, and was director of the NASA/JPL Deep Space Network. He joined the Department of Defense in 1967, heading the Advanced Research Projects Agency, and in 1970 became principal deputy director of defense and research and engineering. He went on to become assistant secretary of defense for telecommunications.

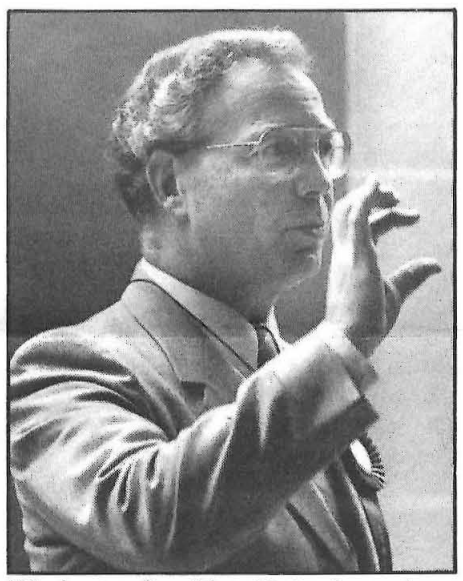
Rechtin joined Hewlett-Packard as chief engineer in 1973 and continued in this capacity until joining Aerojet.

He has served on advisory panels to NATO and as chairman of the National Academy of Sciences' Naval Studies Board. For this work, he was presented with the Navy's Distinguished Public Service Award, and he received a NASA medal for exceptional scientific achievement.

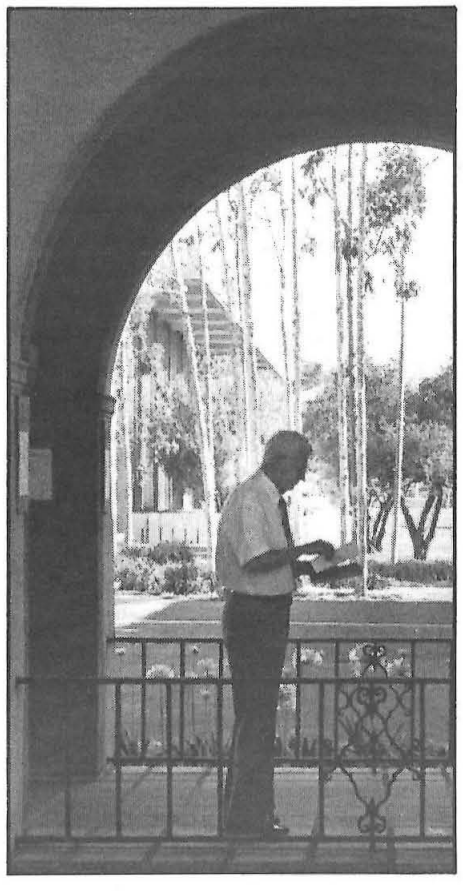
Zweig was born in Moscow and received his BS degree from the University of Michigan. He joined the Caltech faculty after earning his PhD at the Institute, and became professor of theoretical physics in 1967. He joined the staff of the Los Alamos National Laboratory in 1983 and continues with Caltech as a visiting associate.

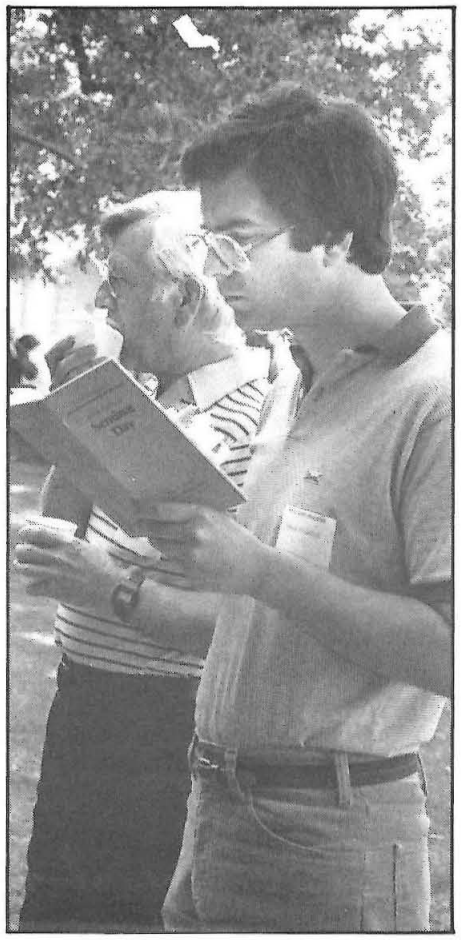
Zweig independently conceived the idea of quarks — a concept that has proved to be of immense importance in modern theories of subatomic particles. The theory was simultaneously arrived at by Murray Gell-Mann, the Robert Andrews Millikan Professor of Theoretical Physics at Caltech.

Zweig holds a MacArthur Prize Fellowship and has twice been an Alfred P. Sloan Foundation Fellow — in physics and in neurobiology.



"Understanding Plate Tectonics and Volcanic Processes" was the title of a Seminar Day lecture by Peter J. Wyllie (Professor of Geology and chairman of the Division of Geological and Planetary Sciences).





Watson: graduates' influence needed in Washington

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quiet diplomacy, the time to try to get them back to the negotiating table and to offer them a fair and square proposition."

Watson stressed his belief in the merits of universal military service, and in the importance of conventional arms as deterrents. "And it would be a demonstration of national will if we would pay for the arms as we build them," he added.

Watson said he finds hope in the fact that our political system is responsive to us if we attempt to influence it. "Politicians are moved by letters and telegrams," he said. "Congress does what it believes we want it to do. If we don't like what we see happening in government, then we must communicate this to those who are making the decisions. We must use the political system to bring about change.

"The most hopeful aspect of our situation is our informed young people. Your ideas have legs. Put them to work."

U.S. government honors eight young faculty members

Eight Caltech faculty members are among 200 scientists and engineers named by the U. S. Office of Science and Technology Policy as recipients of the first Presidential Young Investigator Awards.

The faculty members selected are Robert W. Clayton, assistant professor of exploration geophysics; Joseph L. Kirschvink, assistant professor of geobiology; Robert D. McKeown, assistant professor of physics; Manfred Morari, professor of chemical engineering; John P. Preskill, associate professor of theoretical physics; Thomas A. Prince, assistant professor of physics; David B. Rutledge, assistant professor of electrical engineering; and Gregory N. Stephanopoulos, associate professor of chemical engineering.

Each has been awarded a base grant of $25,000 annually for the next five years to support his research.

The awards are administered by the National Science Foundation and are designed to subsidize promising and original research by scholars near the outset of their careers, and to help universities attract and retain outstanding young PhDs who otherwise might not pursue teaching professions.

NSF will extend additional funds of up to $37,000 annually to match contributions from industrial sources, thus bringing the possible total award for each individual to $100,000 a year.

Robert W. Clayton

Clayton has pioneered the use of tomography — imaging techniques similar to those used in medical X-ray and CAT-scan technology — in the study and measurement of variations in the velocity of the earth's seismic waves. This technique has produced three-dimensional maps of the crust and upper-mantle structure of southern California, and is expected to yield new information on the dynamics of mantle convection.

Joseph L. Kirschvink

Kirschvink is conducting research on the nature, properties, and fossil history of magnetite, a magnetic mineral that birds, bees, bacteria, and other living forms generate in their bodies and probably use to navigate by alignment with the earth's geomagnetic field. His work has established the existence of magnetite in several species of fishes, and he is searching for evidence of the mineral in other migratory animals, and investigating the process by which it is biologically synthesized.

Robert D. McKeown

McKeown is working with particle accelerators at Kellogg Radiation Laboratory and at Los Alamos Meson Physics Facility in New Mexico to study the properties of the atomic nucleus. His experiments at Caltech are directed at finding the quark, a fractionally charged particle believed to be the fundamental building block of matter.

Manfred Morari

Morari has invented sophisticated new techniques for the design and automatic control of chemical processes. His work has produced a computer program for the design of energy management equipment systems. The program has been adopted by several companies.

John P. Preskill

Preskill is developing cosmological models that explore the relationship between the structure of matter as it exists today and its configuration 10 to 20 billion years ago in the initial billionths of the first second of the birth of the cosmos. His work also focuses on grand unified theories, which seek to unify three of the four fundamental forces of nature into a single interaction existing at the first instant of the universe's origin.

Thomas A. Prince

Prince has developed a gamma ray imaging telescope with the capability to produce photographic representations of the exotic and often violent cosmic processes associated with gamma ray radiation. This instrument is expected to relay important new information about such phenomena as the synthesis of heavy elements inside supernovae, neutron stars, and activity at the center of the Milky Way galaxy.

David B. Rutledge

Rutledge is conducting research to develop integrated circuit technology for use in detecting and scanning phenomena characterized by millimeter-wavelength radiation rather than visible light. His work is aimed at developing imaging antennas capable of producing holographic pictures of the internal dynamics of plasma, a superheated, ionized state of matter associated with thermonuclear fusion.

Gregory N. Stephanopoulos

Stephanopoulos is working to design and optimize biological processes for the production of novel specialty products by microorganisms and recombinant DNA engineering. His research aims at understanding the basic biological mechanisms by which these products are formed, and using this knowledge in a variety of research and industrial applications.

Bettering the Bard: a real wedding is added

Six out of the seven performances of Much Ado About Nothing *by Caltech's Theater Arts group were pure Bard. But something special was added for one performance — a real wedding at the play's conclusion. Margaret Ende and Dennis Malone, friends of Caltech, were joined in matrimony in the iris garden on campus, where the performance was staged, with Huston Horn, director of the Caltech Y, as minister. The wedding party members were attired in Renaissance costume, and the audience, including family and friends of the bride and groom, threw not only shoes and rice, but also traditional Renaissance rose petals.*

Alumni Fund sets new records

Fifty percent of Caltech alumni contributed to the Alumni Fund during the second year of the Irvine Challenge Campaign, once more putting the Fund among the top in the nation in terms of participation. The 1983-84 Fund year concluded on July 1.

The Fund surpassed last year's totals, both for dollars and for number of workers, raising $1,650,112 through the efforts of 1,127 alumni volunteers. A total of 7,249 graduates contributed to the Fund this year, compared with 7,394 in 1982-83.

G. Stan Holditch (MS '48), national Alumni Fund chairman, praised the alumni for their hard work and dedication during the second year of the Irvine Challenge Campaign. Through this program, the Irvine Foundation matches, up to agreed limits, increases in total contributions from alumni over the previous year for each of three successive years.

"The foundation has allocated up to $430,000 in matching gifts to the Institute," said Holditch. "We've earned slightly more than half of this amount. The goal during the next year — the year of our 'Final Challenge' — will be to earn the rest."

"I realize that Caltech alumni have invested two years of solid effort to meet the Irvine Challenge. Some have even made a second gift within a single Fund year. This response is very gratifying. During 1984-85, we must ask alumni to work even harder to earn the remainder of the Irvine allocation."

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Student insights influence new graduate housing

When 156 occupants move into the newly completed graduate housing structures this September, they will occupy apartments designed with the best insight into their daily living needs that a committee of their peers could propose.

For more than a year, a committee of five graduate students appointed by the Graduate Student Council (GSC) worked with architect Robert La Fon of the O.K. Earl Corporation.

Early in the planning stages, it had been agreed that the project on Catalina Avenue south of Del Mar Boulevard would offer apartment living, rather than a dormitory concept like that of the older graduate residences.

The six rectangular buildings, rustic in exterior design, are of plaster with rough-hewn wood trim and shingle roofs. Irregularly situated around a central recreation building, their arrangement planned to save several trees on the lots, they encompass 45,843 square feet.

Constructed at a total cost of $3,600,000, they meet a need for additional graduate housing — a need that increased as graduate enrollment rose to 903 in the fall of 1982. Caltech housed 167 of these students in its on-campus apartments, and another 195 live in Caltech-owned housing on or near the campus. Others have sought living space in Pasadena or nearby communities, where rising rents have become an increasing burden.

Members of the student committee included Martha Conklin, Barry Faust, Barry Kupperman, Brian Toby, and Costas Synolakis, 1983-84 GSC president. "Their contributions were very important," says La Fon. "They spent a lot of time coming to meetings and reviewing drawings. Their input was vigorous and well considered, and most of their suggestions were good. Graduate students have had the experience of living in campus housing. They know what works well and what doesn't." Four-bedroom apartments, each with two baths and an efficiency kitchen, and each with a private balcony or patio, are in each of the six apartment buildings.

Six rectangular apartment buildings clustered around a recreation center will be home this fall for 156 graduate students. The apartments are on Catalina Avenue south of Del Mar Boulevard in an area where many graduate students live in off-campus housing.

The recreation building, where student suggestions were generously offered and generously received, contains a laundry room, fireplace, couches, efficiency kitchen, and barbecue. Occupants of the apartments will make some final choices about the recreation center — a ping pong table versus a pool table, for example. Outside there will be redwood tables and chairs — and of course, a lawn area for frisbee throwing. (One suggestion that was not accepted: a jacuzzi). The apartments are located adjacent to a section of Catalina Avenue where many graduate students live in off-campus housing. "We want to integrate our area with this one and to maintain a neighborhood feeling," says Synolakis. Meanwhile, a debate rages about whether to name each apartment building, in the tradition of other campus residences, and if so, what the names should be. This issue had not been settled when *Caltech News* went to press. In any event, this fall 156 students will soon be the happy occupants of the Institute's newest housing facility, starting their own traditions as they enjoy the most practical, comfortable living quarters that the budget could stretch to provide, and that their peers' insights could help to conceive.

NSF grant funds high school version of "Mechanical Universe"

The National Science Foundation has awarded $650,000 to Caltech to adapt portions of "The Mechanical Universe," a college-level physics course for national television, for use by high school students.

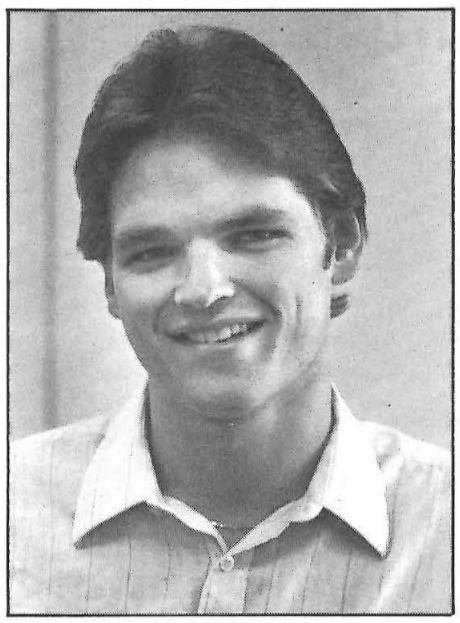
The grant brought 12 outstanding high school physics teachers and administrators to spend two months on the Caltech campus this summer. Here they have been adapting 26 half-hour videotapes on classical mechanics to three hours of video material appropriate for high school students, and writing printed instructional materials for the high school program.

Creation of "The Mechanical Universe" has been under way at Caltech since 1982. Academically rigorous and visually sophisticated, the course is funded by a grant of $5 million from the Annenberg/CPB Project and is produced in cooperation with the Corporation for Community College Television. Its host and project director is Caltech Professor of Physics and Applied Physics David L. Goodstein.

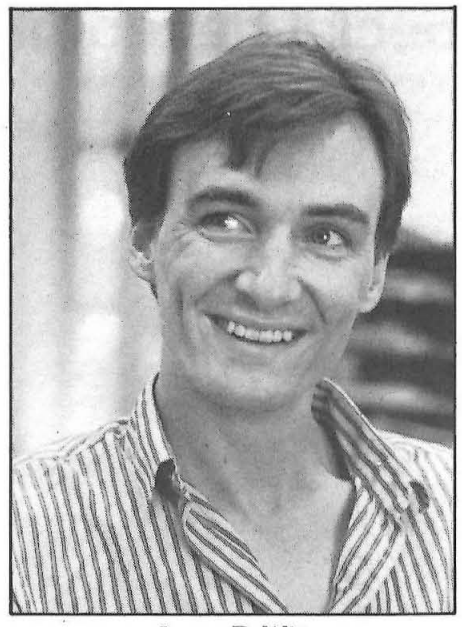
Sixty half-hour programs cover standard topics in an introductory course in physics — for example, the laws of motion and force. Subject matter probes the history, spirit, and methods of science, and includes heavy doses of physics and calculus. The series uses many techniques of modern filmmaking to make the programs visually exciting — for example, computer animation, outer space sequences, on-site filming, recreations of historical events, and other special effects.

By this fall, the NSF-funded team is expected to have the high-school-adapted video and printed materials ready for field testing in their own classrooms and other locations. They will meet again in the spring for evaluation and, based on that information, the final edited version of the tapes will be assembled the following summer.

Beginning in the fall of 1985, the college-level series will be broadcast nationally on public television, and will be offered for credit by universities, colleges, and community colleges across the country. One of its goals is to raise the level of high school teaching of physics as teachers take the course for college credit or simply watch it in their homes.



Donald Fossgreen



James DeWitt

Students swap science for year of mime, Balinese art

By Heidi Aspaturian

This upcoming year will take Donald Fossgreen and James DeWitt, 1984 graduates of Caltech, far from the Institute and possibly even farther still from their respective majors in engineering and applied science, and physics. Each has been awarded a Watson Fellowship grant to spend a year of independent study abroad, exploring firsthand a subject in which he has had an active, long-term interest.

For Don Fossgreen, who has acted, sung, and danced his way through numerous stage productions since grade school, that subject is mime, and he will be traveling to Paris and to the Indonesian island of Bali to study the art in both its western and eastern derivations.

Jim DeWitt, who comes from a family of artists and has worked as a professional illustrator, plans to spend his Watson year in a Balinese village and in southern India, making a comparative study of a centuries-old tradition of native artistry and craftsmanship common to both regions.

The Watson Fellowships are awarded annually by the Thomas J. Watson Foundation, a charitable trust established in 1961 by the late Mrs. Thomas J. Watson, Sr., in memory of her husband, the founder of International Business Machines Corporation. The fellowship program was initiated by the Watson children to give students from private colleges and universities throughout the United States the opportunity to pursue independent study overseas in subjects not necessarily related to their major fields. Fossgreen and DeWitt are among 70 students nationwide to have been selected as Watson Fellows for 1984-1985.

Fossgreen first became interested in mime in elementary school in Elk Grove, California, when his third grade class was shown films featuring the great French mime Marcel Marceau. "I got fascinated trying to interpret what he was doing," he recalls, "and later on I discovered that most of my classmates couldn't understand much about it and were bored while I had been able to figure a lot of it out."

He had a similar experience many years later when he had the opportunity to see Marceau in a live performance at Caltech's Beckman Auditorium. An evening of "walking the dog" and other classic Marceau routines that left many of his friends frankly bewildered left Fossgreen with a strong desire to take mime classes with one of the world's acknowledged masters. He has applied to Marceau's Ecole de Pantomime in Paris and, "When I get there," he says, "I hope I'll be accepted."

If his past record in the performing arts is any indication, Fossgreen should not have much difficulty. An active thespian since junior high school, he got his big break early: Friar Lawrence in a seventh grade production of *Romeo and Juliet*. He subsequently appeared in many roles in both school and community theater and had leading roles in two student musicals at Caltech. To extend his versatility and stagecraft, he began taking ballet lessons three years ago at Le Studio in Pasadena and has performed for two years in Christmas productions of "The Nutcracker."

Somewhere between his performing and his scientific studies, Fossgreen found the time to accept a teaching assistantship in electrical engineering during his senior year. Last summer, he was one of two Caltech students selected by a Japanese alumnus to spend the summer in a city 60 miles outside Tokyo, working in a Japanese factory and gaining firsthand insight into Japan's approach to corporate management. (See *Caltech News*, February 1984.)

After nine months in Paris, Fossgreen plans to travel east to Bali, Indonesia, where mime is experienced not only as entertainment but as a fundamental aspect of Hindu religious life. "The population holds huge outdoor festivals," he explains, "with illuminated puppet shows and masked clowns who comment on the action according to a tradition that goes back more than a thousand years. These are marathon celebrations and the performers all have to keep up the pace."

Fossgreen hopes not only to observe but to participate as well.

"There is a special power and universality to mime," he says, "given to it by the fact that it is a silent art-anyone can understand. It transcends cultural barriers in a way no language can."

Before he heads for the masters' classes in Paris and the phantasmagoric outdoor festivals on Bali, Fossgreen will be making a detour to a mime festival slightly closer to home — West Virginia. And after he returns to America next year?

"Well," says the actor, singer, one-time Japanese factory worker, mime enthusiast, ballet student, and Caltech graduate, "I'll probably go back to work for a while on integrated circuit technology."

Bali is also the destination of Caltech's second Watson Fellow, Jim DeWitt, who will be studying the impact of Hindu philosophy and symbolism in the Balinese visual and plastic arts. The Balinese, he explains, have used both the performing and visual arts as a medium of religious expression for more than 1,200 years. "Everyone on Bali practices what we would consider some form of art," he notes, "a tradition so fundamental to the native culture that there is no word for 'artist' in the language. To the Balinese, art is a form of Hindu devotion."

DeWitt's research in Bali will focus on painting, mask-making, and wood-carving in the village of Peliatan, an agricultural community of about 1,100 that he first visited in the summer of 1981 as a recipient of Caltech's junior travel prize for study abroad. He is also interested in exploring the effect of Western beliefs, to which the region has been historically exposed, on the indigenous art. According to DeWitt, this influence has increased markedly in recent years.

"Bali's reputation as a unique place where the entire population of 2.2 million is an 'artist's colony' has attracted so many tourists over the past decade," he explains, "that many Balinese are modifying or even abandoning the classic Hindu aesthetic approach to their craft in order to cater more to the commercial market. Others are very resistant to this trend. Peliatan has characteristics of both groups."

The son of a portrait artist and an art director, DeWitt was intrigued by art, as well as science, from a very early age. Among the few things that did not intrigue him was the structured learning environment. "I began neglecting school in favor of learning on my own in first grade. By what should have been my junior year in high school, I was in deep trouble."

A court in his hometown of Port Huron, Michigan, gave him the option of school or detention hall for the next two years, and DeWitt returned to classes, leaving at home his work in clay modeling, his oil painting, his geodesic domes, planetary charts, telescope mirrors, and volumes of Buckminster Fuller and Friedrich Nietzsche. Back in school, he discovered an aptitude for physics and a supportive physics teacher who told him about "a little school in California that just might accept a character like me — even if my academic history was bad."

By the time DeWitt transferred to Caltech after two years in the Caltech junior transfer program at Santa Monica City College, Asian-American friends and Vietnamese and Korean immigrants whom he had tutored in math and science had sparked his interest in East Asian philosophy and culture. After arriving at Caltech, he tried to put together an independent major in

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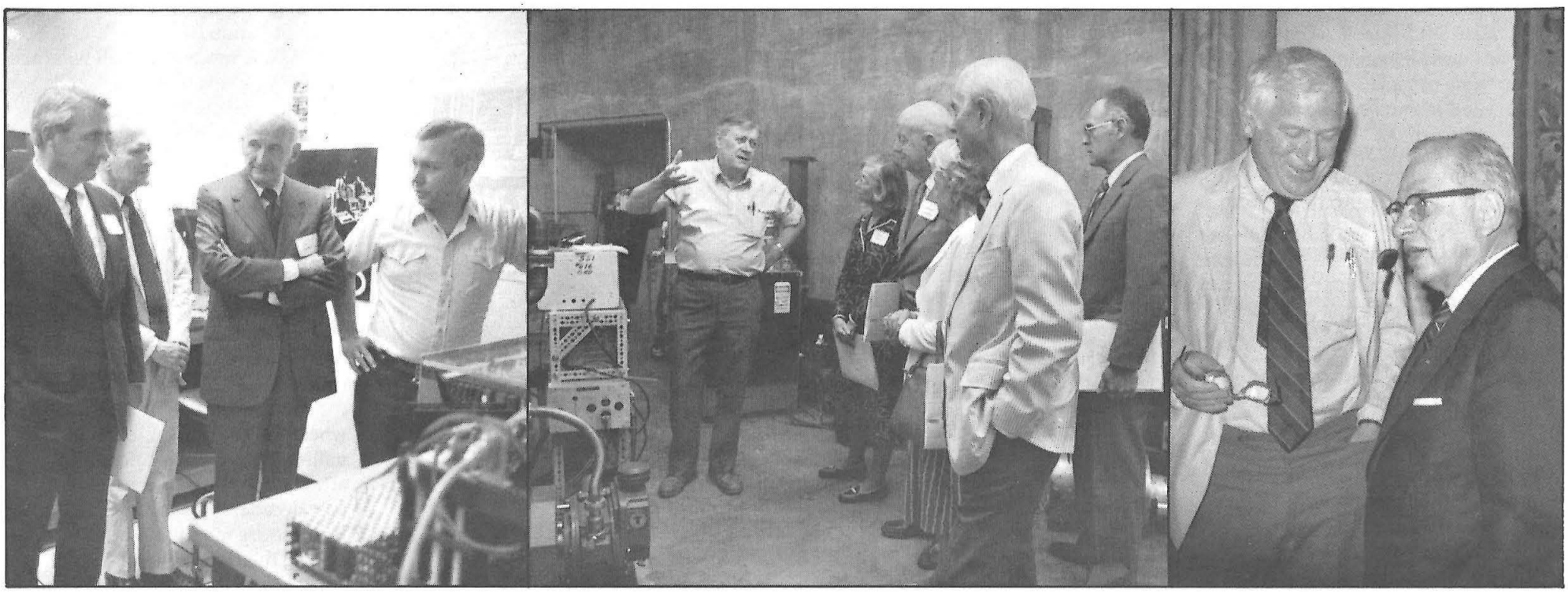
Caltech plans a special day for its Trustees



Caltech Trustees and their spouses were given a special welcome to the campus on May 14. A vigorous, day-long program included tours of research laboratories; informal talks with faculty members; lunch in the Athenaeum with students, administrators, and faculty; a tour of Baxter Art Gallery; and a talk by Caltech Archivist Judy Goodstein. Left: Charles Seitz, associate professor of computer science (right), describes the "supercomputer" being developed at Caltech as he talks with John Akers, Victor Atkins, and Simon Ramo. Akers is the newest member of the Caltech Board of Trustees. Center: Charles R. Barnes, professor of physics, describes astrophysics research under way in Kellogg Laboratory. Listening are Tammy Atkins, Howard Vesper (BS '22), Frances Vesper, Charles Gates, and Gordon Moore (PhD '54). Right: James J. Morgan (vice president for student affairs and professor of environmental engineering science) with Ralph Landau before lunch.

Pentagon drops proposal to restrict research publication

Pentagon officials have dropped a proposal to restrict the publication of some unclassified research sponsored by the Department of Defense.

The original plan, which was recommended as a way to limit the flow of militarily useful technical information to the Soviet Union and other Eastern-bloc countries, was strongly opposed by university representatives.

In March, President Marvin L. Goldberger and the presidents of MIT and Stanford told White House and Pentagon officials that their institutions would be unable to accept research contracts containing such a restriction. Dr. Goldberger also expressed his views on the subject in an article in the June issue of *Caltech News*. At that time no response from the Pentagon had been received.

In subsequent meetings with government officials, as reported in the press, Dr. Richard DeLauer, Undersecretary of Defense for Research and Engineering (Caltech, Eng '50, PhD '53), has repeatedly voiced his opposition to publication restrictions on unclassified research. The research universities are pleased that Dr. DeLauer's views seem to have prevailed in the recent policy reversal.

John Akers joins Caltech Board of Trustees

John F. Akers, president of IBM, has joined the Caltech Board of Trustees, Chairman R. Stanton Avery has announced. Akers is a director of the IBM Corporation and a member of the company's corporate management board and policy committee. He joined IBM in 1960 as a sales trainee in San Francisco, after active duty as a carrier pilot with the Navy. He was appointed vice president of the Data Processing Division in 1973 after various marketing assignments with IBM, and became president of the division in 1974.

Akers was elected IBM vice president in 1976 and a month later was named assistant group executive, plans and controls, for the Data Processing Product Group. He was appointed group executive of the Data Processing Marketing Group in 1978, and became group executive, Information Systems and Communications Group, in 1981.

Akers was elected senior vice president in May 1982 and became president and a director of IBM in 1983.

He earned his BS degree from Yale University and is a director of both the Home News Publishing Company in New Brunswick, New Jersey, and the Council for Financial Aid to Education, as well as a member of the advisory board of the Yale School of Organization and Management. He and Mrs. Akers have three children.

Kousser to spend year at Oxford as visiting professor

J. Morgan Kousser is the youngest scholar in 25 years to be named Harmsworth Professor of American History at Oxford University. Kousser, who is professor of history and social science at Caltech, will fill the one-year visiting professorship during the 1984-85 academic year.

The position at England's oldest university is named for Harold Vyvyan Harmsworth, eldest son of the first Viscount Rothemere, who was killed in World War I. The person selected must be a U.S. citizen and a scholar in American history.

Kousser, 40, has been a faculty member at Caltech since 1969. He is author of *The Shaping of Southern Politics*, and he co-edited a volume of essays in honor of his Yale mentor, C. Vann Woodward. He has received research grants from the National Endowment for the Humanities, and the Howard and Graves Foundations, and will be a Guggenheim Fellow in 1985-86.

Norman Davidson elected to AAAS

Norman Davidson, the Norman Chandler Professor of Chemical Biology, has been elected to the 2,300-member American Academy of Arts and Sciences. Davidson, a member of the Caltech faculty since 1946, has developed innovative uses for the electron microscope that have been adopted worldwide, leading to breakthroughs in genetic and cancer research. He invented a technique known as "heteroduplex analysis" that enables scientists to compare genetic material from related but not identical organisms and to determine exactly where and how they differ.

The Academy, founded in 1780 by John Adams, is a national honorary society whose members include distinguished scholars, scientists, artists, writers, and public figures.

Five Caltech faculty members elected to NAS

Five members of the Caltech faculty, two of them alumni, and four other alumni have been elected to the National Academy of Sciences this year in recognition of their "distinguished and continuing achievements in original research."

Only two other institutions — Harvard and Yale — had five faculty members elected to the Academy this year. Election of the five faculty members brings to 58 the number of NAS members at Caltech.

The faculty members are Giuseppe Attardi, professor of biology; Howard C. Berg (BS '56), professor of biology; Marshall H. Cohen, professor of radio astronomy; William A. Goddard III (PhD '65), professor of chemistry and applied physics; and Edward C. Stone, professor of physics.

The alumni are David A. Evans (PhD '68), professor of chemistry, Harvard University, and formerly professor of chemistry at the Institute; James A. Ibers (BS '51, PhD '54), professor of chemistry, Northwestern University; Gordon H. Sato (PhD '56), director, the W. Alton Jones Cell Science Center, Lake Placid, New York; and Ray J. Weymann (BS '56), professor of astronomy, Steward Observatory, University of Arizona.

Attardi studies gene expression in human mitochondria. Mitochondria — tiny structures within the living cell — are the power plants of the body, producing energy-rich molecules that drive metabolic processes.

Berg investigates the mechanisms of bacterial motion. His research aims at understanding how the "motors " of bacteria operate to twirl their tail-like flagella to propel them through their fluid environment.

Cohen uses the techniques of radio astronomy to study the structures of quasars, incredibly bright objects at the edge of the observable universe. For example, his observations seek to explain the mechanisms by which quasars emit intense beams of matter and energy millions of light-years long.

Goddard is developing theories to explain some of the basic mechanisms of chemical catalysis, reactions on metal and semiconductor surfaces, and biological oxidations. Such studies are important, both to chemists trying to understand the basic nature of chemical reactions, and to industry, where catalysts are important to the efficient production of a wide variety of chemicals.

Stone has concentrated his research on planetary magnetospheres, and solar and galactic cosmic rays. He is project scientist on the Voyager mission to the outer planets. He is also chairman of the Institute's Division of Physics, Mathematics and Astronomy.

Also elected to the Academy this year was chemist Robert G. Bergman, currently a Sherman Fairchild Distinguished Scholar at Caltech. Bergman, a longtime Caltech faculty member, is now at UC Berkeley.

Baxter Art Gallery to close as part of Caltech

Caltech's Baxter Art Gallery will separate from the Institute over the next two and a half years, President Marvin L. Goldberger announced in June.

He said that, in the transition process, the Institute will honor all commitments that it has made to exhibitions, and that it is hoped that support will be developed to establish the gallery as a free-standing Pasadena community facility.

In announcing the closing, Goldberger stressed that the decision (which is based on a number of factors) is in line with a general Institute policy that activities on campus — and associated with its name — must have a clear, direct connection to one or more of its research, teaching, and quality-of-life aspects, and must be closely integrated with campus activities.

He said that resources must be concentrated in those areas of Caltech that are in its mainstream of interest, and that this is particularly important at a time of escalating costs of maintaining academic and research enterprises. "When three out of six divisions at the Institute are in a no-net-growth situation for the next five years, and all others are severely constrained, we are encountering several painful decisions — of which the Baxter spinoff is only one."

Goldberger praised Jay Belloli, who has been director of the gallery since 1982, for doing an "outstanding job," and for his sound and creative management of the gallery — both fiscally and artistically.

Major support for the Baxter Art Gallery has been provided by The Pasadena Art Alliance since 1977. During this period, the Art Alliance has contributed more than $400,000 to the gallery's exhibition budget, and has in large measure made possible its continuing existence.

These funds, along with gifts from other private sources, grants obtained from the National Endowment for the Arts, direct contributions from Caltech, and circulation of exhibitions, have provided the gallery with its annual budget.

Caltech's art gallery had its beginnings in 1969 with a show in Dabney Hall. In 1971, with David Smith, professor of literature, as the director on a volunteer basis, the gallery, which has featured contemporary art, found a home in the newly constructed Baxter Hall of the Humanities and Social Sciences.

In 1976 it closed temporarily after the death of Virginia Steele Scott, its principal donor. It reopened in 1977 with a pledge of support from the Art Alliance — a pledge that brought a commitment of time, energy, and money from some 150 individuals dedicated to the support of contemporary art. The Art Alliance had recently severed its ties with the Pasadena Museum of Modern Art, which with Norton Simon at the helm had changed its focus to more traditional art.

Michael Smith served as director of the gallery from 1977 to 1982. The gallery, under Smith and under Belloli, attracted a steadily growing audience of visitors, and an increasing reputation in its field.

Among the exhibitions, some of them controversial, were a collection of imaginative timepieces, a documentation of corporate art attitudes, invisible acoustic sculpture, a display on Caltech architecture, an exhibit by young contemporary artists, and a showing of ceramics from Los Angeles area collectors.

Marrie Casey dies

Marrie Casey, who was in charge of undergraduate records at Caltech for 24 years, died July 12 of a heart attack. She had been at her desk in the Registrar's Office that morning. Casey, who met and helped thousands of undergraduates, came to work at the Institute on February 8, 1960. She planned to retire in December. A memorial fund has been established in her name. Persons wishing to contribute may do so through the Office of Memorial Funds, Caltech 1-36, Pasadena 91125.

Goldberger welcomes new Caltech alumni

Continued from page 1

non-traditional course: to become involved in the political process.

"Almost all of the problems facing our society have strong technical components, from those involving earthquakes, water resources, and environmental pollution, to those of national defense and arms control.

"It is tragic that so few engineers and scientists are helping to make decisions on these issues from within any level of the political structure. A few Caltech alumni have taken important roles in government, but we have not had one as governor or as president.

"Go for it, and I promise to do everything in my power to be there at your inauguration."

Students submerge selves in mime, Balinese art

Continued from page 5

anthropology. But "the anthropology department went on sabbatical to India," and DeWitt went back to his original plan of majoring in physics, while taking art, Chinese and Japanese language, and Asian studies as electives. Then came the opportunity to visit Peliatan.

On his return to Peliatan, DeWitt plans to extensively interview several dozen artists who are knowledgeable about the Hindu symbolism in their work and whose efforts are representative of those of the community at large. Ultimately, he hopes to publish an illustrated guide to the subject, for use as a resource in both art and anthropology.

DeWitt will also be traveling several thousand miles west to the village of Kumbakonam, in Tamil Nadu, a region of southeast India that shares Bali's aesthetic ideals and is believed by some scholars to be where the Balinese approach to art originated.

"This area has not been exposed to Western aesthetic influences," he says, "but the Indian government now encourages the traditional sculptors there to create work for profit and export. I want to do some comparative work on how the artists in these two geographically distinct but culturally similar regions are dealing with the trend toward producing art for a commercial purpose."

Mission: Understanding

Caltech students visit the USSR

By Phyllis Brewster

A slogan familiar to decades of Caltech students is inscribed in a new location: snow in the Kremlin.

They flew back to LAX, their luggage full of the kinds of items visitors to the Soviet Union ordinarily take through customs — *shapkas*, amber beads, lacquered boxes, caviar — and their journals full of predictable observations: the long lines everywhere, the overpowering presence of uniforms, the neon propaganda signs, the sense of oppression.

But also among their materialistic and intellectual baggage were some rare treasures — items and ideas and experiences that most Americans never encounter.

They were 18 Caltech students on their first visit to the Soviet Union, traveling with Caltech Russian language instructor George Cheron, the son of a Russian-born couple and a former Fulbright-Hayes scholar in Moscow (1978-79). It was the Institute's spring break, March 19-26, and spring it may have been in California, but in Red Square, waiting to get into Lenin's tomb, the Techers took turns standing in the middle of a huddle against the freezing wind.

A large percentage of the students had taken at least one term of Russian in school, some three years, and one, junior Teresa Solberg, had five years of the language. That facility added considerably to their self-confidence, which in turn allowed them an increased freedom of movement around the cities.

"It helped a great deal just to be able to say 'please' and 'thank you,'" said Dave Zobel, a student of third-year Russian, who was capable of expressing a good deal more than just amenities.

On the flight between Moscow and Leningrad, Zobel sat next to a survivor of the German seige of Leningrad.

"He told me all about it — drew maps — it became very real to me," Zobel said. "When you hear about that kind of suffering, the problem of having been served cabbage soup three times that week in the dining room or running out of toilet paper in the hotel just didn't seem very important."

Senior Greg Kavounas, who speaks Russian "tolerably well" after two terms, felt culturally at home in Russia because of his own part-Slavic background. "By the time I left, after seven days, I was *thinking* in Russian," he says.

Zobel's language skill got him into one humorous predicament — that and the fact that he had borrowed Russian boots, scarf, and coat from an immigrant friend in the U.S., so that he wouldn't "look American." Like a number of the Caltech party, Zobel often separated from the group to strike out on his own. Once, in a small grocery store, an elderly woman asked him to read the fine print on a box of tea for her. Zobel kept reading what he thought she was asking for, but the woman got more and more impatient, repeating her request. When someone nearby finally realized the situation and told her that he was not Russian, "she shook my hand, and hugged me, and begged me over and over again to forgive her rudeness," Zobel said.

Communicating, on whatever level, was certainly one of the goals of the trip. Caltech President Marvin Goldberger had given the venture his support.

"In the many years I've been involved in meetings with the Soviets," Goldberger says, "I have come increasingly to believe that it is extremely important for Americans and Russians on all levels to have opportunities to talk to each other."

Goldberger himself arranged one such opportunity for the Caltech contingent — a visit to the Academy of Sciences of the USSR, where two "very friendly" host members expressed a desire for the scientific communities of the two nations to start talking with one another again, and then fielded questions from the group. The Caltech women students were not prepared, however, for the answer to one of the queries: How many women are members of the Academy?

"Too many," was the reply, which, according to Caltech sophomore Lisa Cummings, evoked cheers from some of the male Techers.

"The Russians explained that women are preoccupied with their families and that 'that's all they talk about,'" Cummings reported. Senior Candi McCoy heard it this way: "Women are very hard to work with. They are always running home to take care of their sick children," while Kavounas's version was: "Women can only work from 9 to 5; then they have to go home to cook and take care of the children."

Another arranged meeting was an evening with a group of men and women from the Friendship Society, most of whom had academic backgrounds similar to those of the Caltech students.

For senior Larry Meixner, the exchange, at first, focused on activities and interests. Someone had a guitar, and Larry played some ragtime songs. Then their hosts played and sang Russian folk songs. ("We couldn't come up with any songs we all knew," a disappointed Candi McCoy said.)

Later, Meixner said, the conversation became political. "They asked me who I was going to vote for. (I'm Republican.) Then I told them that there was a Communist party candidate on the ballot. They asked why I wouldn't vote for him, and that's when I started talking about the capitalist system and why I thought it was good."

Because all this was being translated by one of the English-speaking Russians, Meixner wasn't sure how his message went through. But from the looks on the faces of his audience, he guessed that they were thinking, "He's a nice guy, but it's too bad that he's so misled by his government."

"They seem quiet and solemn in public, but if you ask for help, or even look like you need help, they are very, very friendly."

"That was kind of depressing," Meixner concluded.

One of the Soviet students asked Teresa Solberg to explain the ideology for the U.S. going to Vietnam. Teresa answered that a lot of Americans don't like it when their government goes into third world countries.

Solberg felt that the Russian students assume our media has as much propaganda as theirs. "They get almost no outside information," she said. "Customs went through my *Newsweek* page by page, and I got to keep it only because there were no articles in it about the USSR."

Others at the Friendship Society meeting talked about music or literature or science. McCoy found a molecular biologist whose (cloning) research was similar to her own. "He hadn't heard of some of the new techniques we are using," McCoy said. "I got the impression that they are not getting current American scientific journals in any numbers."

Cummings talked to a neurobiologist who wanted to know what Russian literature and drama she had studied. "He was really put out that I hadn't much familiarity at all with either."

Everywhere they went, the Caltech group was impressed at the avid interest in everything American, and at how much their Russian contemporaries knew about U.S fashions, music, literature, personalities.

One of the Caltech students remembers this vivid statement by a Russian acquaintance. "To Americans, the Soviet Union is like a black hole; to Russians, America is like a blinding light."

The students were constantly stopped on the street by young people (mostly between 15 and 25 years of age) asking "Americansky?" and then wanting to exchange rubles for dollars or to buy blue jeans or to just talk. One of these encounters led to an invitation to senior David Marvit to spend an evening at home with five Russian students.

"There I was," Marvit says, "in a flat in Leningrad, sitting around playing chess and talking, drinking tea and vodka, and one of the guys put on this old scratchy record of Joan Baez singing, 'We Shall Overcome!' "

A young man Dave Zobel met knew all the words to "Jesus Christ Superstar."

One of Marvit's new acquaintances asked for a list of American slang words. He hoped to pass himself off as an American in the Beryozka shops that are open only to foreigners. Another young man wanted U.S. coins for the pictures of the American presidents.

Techers also found the Russian young people intensely interested in American politics and peace.

"Wherever we talked to them, they always asked, 'Why can't we have peace?' " said Eliza Sutton, a senior with three years of Russian. Eliza and friends were having dinner at a restaurant in their hotel, and a table of Russians having a birthday party there wanted them to join in a toast — to peace, to *mir*. Eliza said it was a touching experience.

"We talked to students who thought Americans want war. Of course we did our best to convince them that our people don't want war any more than theirs do."

Sutton scanned several issues of *Pravda*, found that the press liked Gary Hart, didn't find anything about Afghanistan. She did look through a magazine article about the U.S. in El Salvador.

"I was very aware of loaded words and editorializing in articles about the U.S.," she said. "But what was amazing was that when I got home, I noticed the same kind of critical statements and loaded words in our editorials. You could have just substituted the word USSR for USA."

As might be expected, the Caltech students went to the Soviet Union with differing expectations about what they would find there politically, historically, and culturally. Some admitted to having preconceived attitudes; others claimed to be totally unprejudiced.

Those who were the least prepared for the physical and emotional climate experienced some rough culture shocks initially.

- "There weren't a lot of flags or patriotic posters about Mother Russia; it was the Communist party that was played up — electric signs on all these buildings that read 'Glory to Lenin's Party' and messages like that. I was amazed."
- "It was scary to find out that people think communism is the only way to go. I really have a hard time with communism; I did before I went there."
- "I thought no place could be very different from here, but we might as well have been on another planet."
- "Customs — our first impression of the country — cowed us. A uniformed guard in a glass booth took our visas. I smiled at him, but he just stared. He was absolutely impassive — mechanical. It was unnerving."
- "No one in Russia whistles; Marvit was asked to stop whistling."
- "There was a microphone in our hotel room, in plain sight over the door. We looked under our mattresses for hidden bugging systems."
- "They did everything they could to see that our visit ran smoothly, but the inefficiency is so bad that it showed through everything."
- "They don't have any idea of what their government is doing, no control over it, no input, the way we do. It makes me more wary of a bilateral freeze. You get the feeling that their government is not responsible to their people."
- "I did not go with a prejudiced viewpoint. Before this visit, I discounted the negative things I had read, because I thought most of it was U.S. propaganda. Now I have seen for myself; the whole experience was depressing."

Others among the Caltech visitors who knew in advance what to expect found it easier to look beyond the cultural differences to other dimensions of appreciation, understanding, and learning.

- "Some of our group were all tied up over waiting in lines, the quality of the food, the presence of uniforms everywhere. They went with the assumption that it was a lot like America. Seven days weren't enough to assimilate the differences. In my case, what we got in the way of service was a lot better than I expected."

"People in Russia are used to suffering and hardship, partly because of World War II, partly because of the weather. It's a harsh country."

- "Someone in the street came up and asked if I would sell something. I said, 'How do I know you're not a KGB agent?' He laughed so hard and honestly that I was ashamed I had said that."
- "Although the signs on the buildings heralded world communism, none of the people we talked to were interested in world communism."
- "People are the same everywhere. We played a game, looking at people's faces and asking, Could they be Americans? We only found a few who we felt wouldn't pass."
- "I saw some bag ladies recently in Boston. I never saw anything like that in Moscow or Leningrad."
- "They seem quiet and solemn in public, but if you ask for help, or even look like you need help, they are very, very friendly."
- "I went with an open mind; therefore, when something happened, instead of saying, 'This isn't what I expected,' I just thought, 'That's interesting, I must remember that.' "
- "People in Russia are used to suffering, hardship, partly because of World War II, partly because of the weather. It is a harsh country."
- "At first I thought the city — Leningrad — looked drab; then I began to see other things, between the big apartment complexes — a little mosque, little flashes of beauty."
- "I think all of our group liked Russia, although some showed more of an 'American superiority' response than others."
- "I want to go back again — in the summer next time, when the fountains are playing and the statues in the parks aren't covered with crating, as they are in the winter."
- "Tretyakov Gallery of Russian and Soviet art had lots of pictures of war, many in blacks and grays. War has had such a great influence on them."
- "Older women seem to be everywhere, doing all kinds of jobs. And there are an incredible number of one-legged men."
- "It was an irreplaceable experience. I have so much more understanding of the Soviet people."

One thing that the Techers agreed on is that Russians are "real big" on ice cream and that the ice cream "is really good stuff." It is sold on the sidewalks, they say, by women vendors with packs strapped around their necks, and wherever they set up, there is an instant line, "for miles." One of the Caltech seniors remembers a morning in Leningrad when "it was snowing like crazy and 50 percent of the people were walking around eating ice cream."

Some of the students thought that the more reflective ideas would come later, but there was this sobering thought from Teresa Solberg.

"Although I basically think it isn't going to make much difference what the people of each country think — the governments will act as they decide — there are people (like Roosevelt and Kissinger) in this world who have made a difference. Who is to say that one of us who visited there might not some day be in a position to do something enlightened?"

Postscript: The enthusiastic response to the trip has resulted in a waiting list of 40 undergraduates for a repeat trip being planned by Cheron for next year's spring break.

Phil Conley:

Can a Caltech jock find happiness on the U.S. Olympic team?

By Winifred Veronda

Philip R. Conley (BS '56), financial and investment adviser, vigorous avocational athlete, and househusband to one the most distinguished women in U.S. medicine, sits in his home on a redwood-studded hillside above Palo Alto and the San Francisco Bay, and reminisces about being a member of the 1956 U.S. Olympics team.

That achievement — and the life pattern that emerged as a consequence — came through a chance conversation with Caltech Coach Bert La Brucherie on a rainy day in February during his freshman year. It was a day off from basketball practice, and Conley told La Brucherie he'd like to try some high jumps.

Because of the incompatibility of high jumps and rain, La Brucherie suggested that Conley experiment with the javelin instead. He taught the Fresno freshman what he knew about the instrument, and then Conley proceeded to work on his own. A few weeks later, he broke the Caltech freshman record with a throw of 176′ 9½″. That was the beginning.

One of two graduates from Fresno High School to enter Caltech the fall before that rainy afternoon (the other was Carver Mead), Conley brought to the Institute a record as an outstanding student and a pretty good athlete. At Fresno High he had won A letters in basketball and tennis, and B letters in football and track, and he was runner-up in the San Joaquin Valley in tennis singles.

At Caltech, he soon concluded that he couldn't rank as the outstanding student he had been in high school, and hoped that he could survive academically. Simultaneously, he discovered that Tech sports were wide open for his talents.

Phil Conley in 1956

"Physically, I was slow to mature," says the lean, trim, athletic (6′ 3½″, 200-pound) Conley. "In high school, I had been behind my age group in physical maturity. I had a yearning to be a jock, but I was just on the fringes. At Caltech, I realized I could fulfill my fantasies."

Conley lost no time in doing just that. He emerged as a three-year varsity football letterman and all-conference quarterback; a three-year varsity basketball letterman, all-conference center, and high scorer; a baseball letterman; and a star in track and field. As a sophomore, he became the first Techer since 1933 to win four letters in one year.

As a senior, he was all-conference in three sports, and team captain in the same three — and ASCIT president to boot. A member of Fleming House and a mechanical engineering major, he recalls that for two years during this era, he only slept three or four hours a night. "I was more efficient during those years than I've ever been in my life," he says.

By this time, he had become something of a local celebrity, Caltech athletes of his stature being unique enough to draw out the media. His picture in the *Los Angeles Times*, *Sports Illustrated*, and other publications made him a recognizable figure in Pasadena burger houses, and at parties. Techers' dates often wanted to be introduced to "The Phabulous Phil."

"Because I was shy and didn't date very much, the fellows knew that their dates were usually safe with me," Conley says. "I was an only child and really hadn't been around girls very much. These conversations at parties gave me valuable experience in socializing with women."

Meanwhile, work with the javelin continued and honors mounted. During his four years at Caltech, Conley was never defeated in a dual meet, and during his senior year he was never beaten by college competitors. He broke the varsity conference record over and over again. On June 15, 1956, his throw of 239′ 11″ in an NCAA meet made him the official collegiate javelin champion of the United States.

"I like the javelin because you can win with one throw," he says. "Working with the javelin is very different from running a marathon or a hurdles race. Performing with it is a function of physical coordination and of arming oneself mentally for one positive, explosive experience. I began to think about the Olympics during my junior year, and during my senior year I was confident that I would be part of the team."

As the number-one javelinist in the NCAA, Conley automatically qualified as a competitor for the U.S. Olympic team trials. At the Coliseum, in a field of 15 potential team members in the Olympic trials, he threw 244′ 1″ to win second berth on the team for the Melbourne games. His throw that day was nine inches behind that of the number one team member, and nine feet ahead of the third-place contestant. "That day," says Conley, "was, and continues to be, the most important in my life."

Although he had graduated a few days before the Olympic trials, his performance was allowed to stand as the Caltech record for the javelin since he was representing Caltech. It is still standing.

The Olympics were held in November that year — the only time they have been held in the southern hemisphere. In the northern hemisphere they would have taken place in

By this time he had become something of a local celebrity, Caltech athletes of his stature being unique enough to draw out the media.

mid-summer, and there would have been no break in training. That year, however, most athletes took a six-week break and resumed training in September. Conley, who had taken a job with Procter & Gamble after graduating from Tech, was given a ten-week leave of absence to finish his training and go on to the games.

In retrospect, he regrets that the U.S. track team that year had no opportunity to participate in European meets, and to be acclimated to the effects of weather on performance — or to the "total isolation" that they would experience in the Olympic arena at the moment of performance.

In Melbourne, Conley finished in tenth place at 228′ 3½″, and as the best American in a field of 21 competitors. Had he achieved a mark equal to his qualifying performance, he would have won a bronze medal.

"I realized later that I had been naive," he says. "I'm a goal-oriented person. That year I set three goals for myself: to win in the NCAA, to make the Olympic team, and to throw 250′. Before the games, I achieved all of these. Before that point, I should have raised my expectations. I should have set new goals for myself: to win a medal — something like that. Athletic success had come quickly and somewhat easily for me at Caltech; it was still hard for me to accept my potential."

Conley came home from the Olympics deeply discouraged. "This was the low point in my life," he says. "Nothing since then has rivaled

it. If I had it to do over again, I probably would have gone to Europe after that and found a top teacher. I might have driven a bread truck at night and trained during the day, that kind of thing.

"But I was damaged because I hadn't performed better in the games. So for the next ten years, I tried to be a part-time athlete while the others were working at it harder. In the back of my mind was the thought, 'What if I make another team and fail? What if I'm tenth again?' By holding back, there was an excuse. So I tried to make throwing the javelin less important. I only gave it the working man's shot."

Philip and Frances Conley

Conley was among the top six throwers in the country for the next ten years, and was a member of U.S. touring international teams. But he never qualified for another Olympics team. "There were," he says, "always three people better than I was."

In 1969, he quit throwing the javelin. But in 1974 he came out of retirement to join the masters' program, which places track athletes in competition with others within five-year age categories. Now, at almost 50, he normally throws in the low 200s. "When I think about what I am," he says, "I think of myself as a javelinist."

Conley keeps up a vigorous athletic regimen that involves running up to 35 miles a week (temporarily slowed because of knee surgery), bicycling, and weight lifting and swimming on the Stanford campus, 20 minutes down the hillside. On an informal basis, he coaches several Stanford students in the javelin, and he is looking forward to attending the Olympic trials and games in Los Angeles.

In 1962, the javelin brought Conley another prize. He was asked to help a young women athlete and medical student, Frances Krauskopf, daughter of a Stanford geology professor, who wanted to learn to throw. Krauskopf competed against men in swimming, diving, and gymnastics. Conley helped her with the javelin, and the next summer they were married.

Meanwhile, Conley had earned his MBA from Harvard Business School in 1962. In addition to work for Procter & Gamble, he spent two years in the Army and worked for the Raychem Corporation and the Memorex Corporation in roles involving manufacturing, facilities, finance, and administration.

In 1970, with Frances Conley a medical resident and the family coffers buttressed through some profitable investments that Conley had made, financial independence had become a reality and he decided to retire to the role of what he calls "househusband." In this capacity he would give his wife the support for her demanding career that a wife traditionally provides for her husband.

He says he had no regrets about his retirement. "I never really enjoyed the working world," he says. "I didn't revere the cast of characters in the executive suite."

Today Conley maintains the house and its two acres of hillside greenery; he does "98 percent" of the cooking (heavy hors d'ouvres, lots of vegetables in salads, a meat course, and desserts — served with plenty of wine — are typical fare); he takes care of family financial matters, and he often buys Dr. Conley's clothes.

Working for himself in investment analysis, he began to be asked for advice by friends about their own investments, and gradually he developed a financial consulting service, Philip R. Conley/$trategie$. This work gives him an open, flexible schedule. He also has written freelance columns and features for the *National Masters News*, a publication for participants in the masters' program.

"You never know how things will turn out," he says. "I always envisioned myself as a paternal, successful industrialist, head of a large enterprise, firm but fair. Instead, I'm running a one-man shop."

The kind of support he provides Dr. Frances Conley is almost essential for a dedicated professional who works seven days a week — 12 hours a day, Monday through Friday, and four hours or more on Saturdays and Sundays — with some journal reading after that. As associate professor of neurosurgery at Stanford University Medical Center, and chief of the section of neurosurgery at Palo Alto Veterans' Hospital, Dr. Conley has achieved a distinction that has brought her feature coverage on ABC's "Good Morning America" and other television programs, and in *Time*, *Newsweek*, *People*, and other magazines. Maintaining her athletic activities, she rises every morning at 4:30 to run, and she is the U.S. women's javelin champion in her age group.

Devotion to a spouse who is so deeply immersed in a demanding career creates challenges familiar to many women in similar positions. Conley shares the desire that his partner might bend a little in her "unilateral dedication to her schedule," that she might get home earlier for dinner sometimes — or that they might take weekends together more often.

But Conley expresses satisfaction with his life. "I really think I'm a better person for the life I'm leading," he says. "I can do anything I want, any time of day. A woman normally performs the role of support for a spouse that I'm performing, but there's no reason why a man can't do it."

Because of the pressures on their time together, the Conleys place a high value on their privacy. "We enjoy each other and we enjoy being alone together," Conley says. They take two- or three-week camping vacations (a transition from the time when they would fly to Hawaii for instant immersion in a vacation environment), they entertain at brunch or wine tastings, and they savour precious time alone together — privacy shared with their Dalmatian, Marshal Tito, and their half-Siamese cat, Rex.

A few years ago, Conley built a second home at Sea Ranch, north of San Francisco, and he often spends time there during the week — a "coping mechanism we've found valuable. We love to be together, but we also need some time alone; this is especially important for Fran, who works so intensively with people."

As he looks back on his Caltech years, Conley recalls discovering how much fun it was to win. "I became enamored with winning," he says, "and then it became necessary to win. But as an athlete, you know that sometimes you won't be able to win, and that you must manufacture coping mechanisms to deal with this.

"I'm still a competitor; competing has been a major part of me. But at some point, I may have to start competing in adult games, rather than childhood ones."

"It was hard to have the Caltech experience so early — hard to sustain the success," he reflects. "Sometimes I wonder: Would I have been a better, more fruitful member of society if I hadn't had all that so soon?"

Three Caltech athletes preceded Phil Conley to the Olympics, according to our investigation. Glenn Graham (BS '26) was second in the pole vault in 1924, Folke K. Skoog (BS '32, PhD '36) ran the 1500 meters for Sweden in 1932, and James Lu Valle (PhD '40) won a bronze medal in the 400-meter race in 1936.

Graham is retired and living in Morro Bay, California. Skoog is the C. Leonard Huskins Professor of Botany with the Institute of Plant Development, the University of Wisconsin. Lu Valle, now retired, conducted research in industry before joining Stanford University as director of the university's undergraduate chemistry labs.

If we've missed anyone, please let us know.

Class of 1934 recalls Einstein, von Kármán, the Long Beach quake

"We're all fortunate that we've lived at this time, said Robert O. Boykin, Jr., to members of the class of 1934 at the Half-Century Club luncheon. "In the history of the world, there hasn't been a more interesting period."

The environment facing the graduates in 1934 may have seemed more interesting than they would have wished, noted J. Robert Schreck, reunion secretary. For the next 11 years, they lived in a world where normal patterns were disrupted — first by the Great Depression and then by World War II — and where civilization struggled to regain its equilibrium. It was 1945, 11 years after graduation, before members of the class of 1934 could settle into a normal lifestyle.

But it was the four years before 1934 — and the men and women they met at the Institute — that most of the classmates recalled as they received their Half Century Club certificates. Francis Clauser remembered putting a Lockheed model plane through the 10-foot wind tunnel — and putting the tunnel temporarily out of operation in the process.

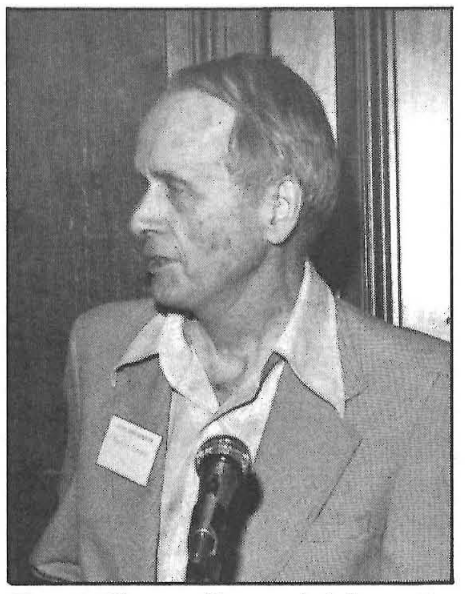
In another vein, he commented, "You remember the pretty young librarian in Dabney?" (Numerous voices gave assent.) "Well, I'm the man that got the girl."

Robert C. Anderson recalled the Long Beach earthquake, and how two graduate students were playing tennis on the Athenaeum courts when the quake commenced. "I'm convinced," he said, "that their gyrations on the court represent the origin of break dancing."

Said James Bonner, "After 52 years at Caltech as a faculty member and student — it was great!" Milford C. Childers remembered Scotch oatmeal at Fleming House, and dinners at Robert Millikan's home on Sundays. Paul Dane, who majored in aeronautics, recalled that Theodore von Kármán, the great aeronautics pioneer, had a propensity for pinching the ladies.

Wilhelm S. Everett told his classmates that "I never pass up the opportunity to let it be known that I went to college with Albert Einstein." George W. Housner recalled being invited to lunch at the Athenaeum when he was a student, and sitting at a large round table where Robert A. Millikan presided, talking and eating as Millikan "operated a contraption for making melba toast."

Robert Sharp: He stood on the 9-yard line as if to pass, waiting for a halfback who never came for the ball.



Francis Clauser: He married the pretty young librarian in Dabney.

W. Lavern Howland talked about football, and about being on the team the day the Beavers played their last game in the Coliseum. Pitted against UCLA, Tech lost, 77-7.

Elvin B. Lien reminisced about sitting up all night before graduation with other *Big T* staff members, cutting pages out of the yearbook that were deemed objectionable, so that the editor could graduate.

Garth F. Nicolson recalled picking cherries and apricots near Beaumont, transforming the fruit into wine in a Caltech laboratory, and then refining the wine to brandy. "One of our class members still has a bottle," he insisted.

Richard T. Parker spoke of how tough it could be to find a job in 1934, and how he accepted heavy labor on the San Francisco Railway, work funded by the National Recovery Act. He worked 63 hours a week for 41 cents an hour.

G. Sidney Smith remembered the time the housemother in his dorm ordered everyone to come to dinner in a coat and tie. Everybody did, but sans shirts.

Alfred I. Switzer recalled the time he was on his way to a track meet at Occidental College, and was asked to drive Einstein to the Occidental campus for an appointment. When they arrived, neither he nor Einstein had any idea whom the great man was to see. "I turned him over to the track coach," said Smith, "and never heard what happened to him."

Robert P. Sharp said that the most painful experience of his undergraduate career occurred in a football game against Pomona, shortly after the 77-7 loss to UCLA. "We decided to try one of Coach 'Fox' Stanton's trick plays," said Sharp. "We were on the 9-yard line and I struck a statue of liberty pose five yards behind the line, as if to pass. But the halfback never came for the ball. And before the evening is over, I'm going to identify him!"

Nico van Wingen remembered when all Caltech professors were Republicans, when there were no women on campus (except for the secretaries), and when "we felt safe, leaving our books and slide rules outside Culbertson before assembly."

And Glenn W. Weaver remarked that William Bennett Munro, professor of history and government, had told class members, "Some day you'll make $10,000 a year." "We laughed at him," said Weaver, "but it came to pass."

Achieving that distinction, along with the other class members, were four, present at the luncheon, who became members of the Caltech faculty: James F. Bonner (PhD '34), professor of biology, emeritus; Francis H. Clauser (MS '34, MS '35, PhD '37), the Clark Blanchard Millikan Professor of Engineering, Emeritus; George W. Housner (MS '34, PhD '41), the Carl F Braun Professor of Engineering, Emeritus; and Robert P. Sharp (BS '34, MS '35), the Robert P. Sharp Professor of Geology, Emeritus.

Arne Kalm (BS '56, MS '57), 1983-84 president of the Alumni Association, welcomed the class members and reminded them that theirs was the last class to enter Caltech before the student houses were completed. "You helped to cast one of the great traditional features of the Institute," he said. Kalm noted that there were 78 living members of the class, plus 27 who received advanced degrees, and that 40 had come to the reunion.

Among those not present was one who was away on a People to People golf tournament, one on a month's trip to Europe, and another leaving for Saudi Arabia. Absent was an alumnus from China, Yun P. Liu, a faculty member in chemistry at the University of Tientsin, the People's Republic of China. Liu wrote that "my heart is with you." He recalled that Arthur A. Noyes once said to him, "I hope you go back to help your country," and that this helped inspire him to a 50-year teaching career.

President Marvin L. Goldberger remembered that it was in 1933 or 1934 that he first heard of Caltech. "I was home in bed with scarlet fever," he said, "when I read a piece of fiction in the *Saturday Evening Post* about a mathematical physicist at the Institute. This must have made me susceptible to the profession. And now it is my great good fortune to be here."

William L. Holladay, representing the 60-year-anniversary class of 1924, presented a class gift of $8,000 to the Institute. He remembered that when his class graduated, "the Model T was the predominant mode of transportation, bread came in two sizes — 5 cents a loaf and 10 cents a loaf — and gas was 25 cents a gallon!" Of the 78 undergraduate class members, he said that 28 are living, and that 8 came to the reunion.

Fred A. Wheeler, representing the class of 1929, presented a reunion gift of $13,000 to the Institute, and George Housner presented a check for $42,000 from the class of 1934.

Brian Burk sets school pole vault record

TRACK

Individual performances created the highlights in the 1984 track season as the men's team struggled to win only two dual meets. Tech lost nine and finished last in the SCIAC championship meet.

The women's season was even more bleak. Only Diane Creveling competed, taking several seconds and thirds in the 1500- and 3000-meter events.

In the men's competition, injuries decimated the already thin ranks to the point where only eight to ten athletes were available for most of the season. Outstanding individual performances gave the "orange and white" some moments to be proud of, however. Sophomore Brian Burk pole-vaulted to a new school record of 14 feet, for the second best performance in the SCIAC for the 1984 season. Freshman John Beck shocked the field in the Redlands and the Riverside invitational meets to win the 800-meter race on both occasions and went on to record an excellent time of 1:55.4 by the end of the season. This was the second fastest time ever turned in by a freshman at Caltech. Beck also ran a sizzling 50.09 400-meter leg on the 1600-meter relay, thus serving notice that he has the speed as well as the determination to challenge the school records in the 800 and 1500 meters.

The mile-relay team of Dave Chavez, Brian McLain, Steve Stahl, and Beck ran a great race at the NAIA district three championship to place sixth with an excellent time of 3:29.4, to give an exciting climax to the season. This was the best time achieved in the last five years by a Caltech foursome.

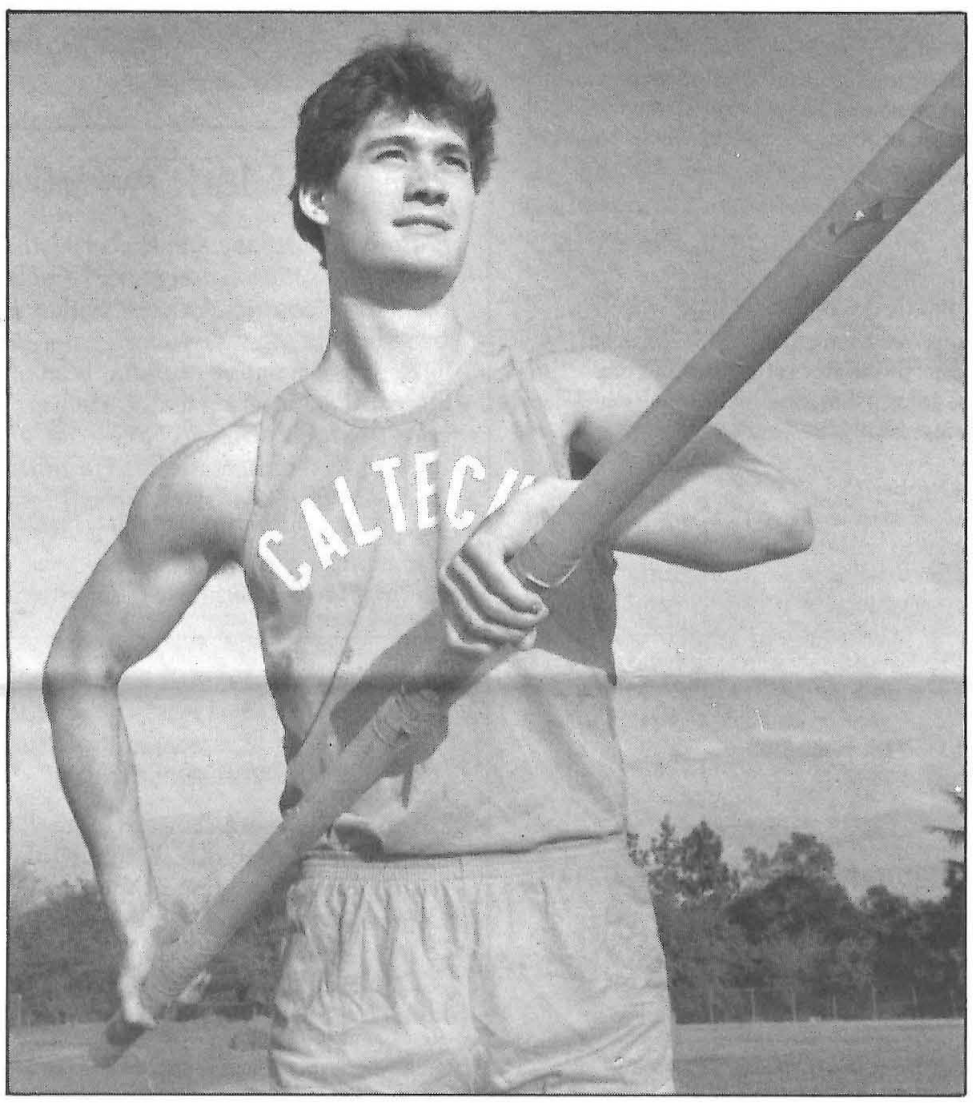
Although many experienced seniors will be lost for the 1985 season, a good group of freshmen, sophomores, and juniors will return to form a solid cadre for Caltech to build on next year.

At the team's annual dinner, John Beck was honored by his teammates as the winner of the Goldsworthy Trophy for being the "Outstanding Track Athlete" for the 1984 season.

Occidental edged Pomona-Pitzer by four points to win the SCIAC championship.

BASEBALL

With an overall record of 8-27, the 1984 Caltech baseball team goes into the record books as one of the best teams in the school's history. A total of 11 team records and 7 individual records were established this year, the best in Tech's 62-year baseball history.



Brian Burk pole-vaulted to a new school record of 14 feet for the second-best SCIAC performance of the 1984 season.

Two individuals stand out this year: Team Captain Pat Harrison from Ephrata, Washington, who broke three single-season records (runs, hits, games at bat) and one career record (RBIs), and Jim Hamrick from Sunnymead, California, who broke three single-season records (RBIs, home runs, runs) to become a dominant force in the league.

Pat won second team All-League honors and Jim won honorable mention — both for the second straight year. The two shared the Alumni Baseball Trophy, which is awarded annually to the most valuable player.

Three graduating seniors deserve mention: Steve Havstad of Livonia, Michigan, is a four-year letter winner who has twice been team captain, once most valuable player, and twice All-League, and who ranks in the top three-in-seven career record categories.

Bob Mostert of Sacramento, a two-year starter, also had five stats and was one of the finest outfielders in the SCIAC conference. Doug Shors of St. Charles, Missouri, will be greatly missed next year, after finishing a four-year career as one of the best defensive first basemen in NCAA history. His .982 fielding average is one of the most outstanding ever recorded.

LaVerne won the league championship again with a 16-2 record. Whittier (13-5) and Redlands (12-6) fought a close battle for second. Next year's team, while having to recover from the loss of five seniors, will be returning some fine players, including Jim Hamrick, Mike Keating, most valuable freshman and pitcher Ed Casey.

GOLF

Despite the valiant efforts of Captain Tom Remmers, graduating senior from Fairfax Station, Virginia, the Caltech golfers were unable to put a complete team on the course until the SCIAC championship tournament. Mark Pitt, a junior from Great Falls, Montana, freshman Mike Ando of Torrance, California, and Derek Ney of Chevy Chase, Maryland, were the most consistent team members. Freshman James Bell of Coventry, Rhode Island, and John Mann of Liverpool, New York, along with Dennis Fatland from Tacoma, Washington, played as often as their schedules permitted. Remmers, a four-year letterman, was the winner of the J. B. Earl Trophy as outstanding golfer.

Redlands edged LaVerne for the SCIAC championship while Pomona-Pitzer dropped to fifth behind Claremont Mudd and Occidental. Whittier barely finished above Caltech in sixth place.

Next's year's prospects appear excellent, because the only team member graduating is Remmers. The problem again will be for the golfers to find enough free time in their academic schedules to be present for the matches.

MEN'S TENNIS

Victories over Christ College and LaVerne (three times) highlighted the men's tennis team's season and propelled the Beavers to sixth place in the SCIAC. Redlands once again dominated conference play and won the division III NCAA national title.

Several team members achieved exceptional improvement — among them, Tom Nolan of Worthington, Ohio; Ashok Krishnamoorthy of Madras, India; Rajiv Sahney of Bombay, India; Ichiro Takeuchi of Douglastown, New York; and Steve Roskowski of Grand Junction, Colorado.

Next year's prospects will be determined by ability to replace several graduating seniors: Ned Wingreen, captain and three-time Scott Trophy winner from Studio City, California; Pete Rodriguez of Bakersfield, California; and Roy Hashimoto of Florence, Alabama. Other players making strong contributions were Ryoji Watanabe of Mountain View, California; Rex Wang of Foster City, California; and Khanh Nguyen of Torrance, California.

Continued on page 14

ALUMNI ACTIVITIES

August 27 — Reception for new Caltech students from the Portland area, 5-7 p.m., at the Thunderbird Motor Inn, Portland, Oregon. Returning Caltech students and Caltech alumni are invited. Contact Robert Pailthorp, 12060 NW Old Quarry Road, Portland 97229, for reservations.

September 6 — Reception for new Caltech students from the New York area and their parents, 3-5 p.m., the Princeton Club, 15 West 43rd Street, New York City. ASCIT president Paul Graven and alumni from the area will welcome the guests. Contact Harry J. Moore, 39 Manursing Avenue, Rye, New York, 10580, for reservations.

September 8 — Reception for new Caltech students from the San Francisco area and their parents, 4-6 p.m., the San Francisco Airport Hilton, before the evening program with William A. Fowler. Bay-area alumni and returning students will welcome guests. Contact Pam Hillman, Caltech Development Office, 1-36, Pasadena 91125, for reservations.

September 8 — An evening with Nobel laureate William A. Fowler (the Institute Professor of Physics Emeritus). No-host cocktails, 5:30 p.m., dinner, 6:30 p.m., $15 per person. Fowler will describe his experience as a 1983 Nobelist in Stockholm in a talk entitled "The Quest for the Origin of the Elements." Contact Pam Hillman, Caltech Development Office, for reservations.

September 13 — Luncheon for alumni in the Santa Cruz area, 12 noon, Hollins House, Pasatiempo Golf Course. Contact Don Cleveland for reservations.

September 20 — Luncheon for alumni in the San Francisco area, 12 noon, Ming's Restaurant, Palo Alto. Contact Hugh Dubb for reservations.

September 29 — Wine tasting for alumni in the New York area, 2-5 p.m., $15 per person. Apaswamis Club, Rye, N.Y. Joe Colombe of Trader Joe's will be in charge of the program on wines. Contact Harry J. Moore, 39 Manursing Avenue, Rye, New York 10580, for reservations.

October 1 — Chicago chapter meeting, the Tower Garden Restaurant, Skokie, Illinois. No-host cocktails, 6:30 p.m.; dinner, 7 p.m. Cost: $15. Robert P. Sharp (the Robert P. Sharp Professor of Geology, Emeritus) will speak on "Glaciers Here and There."

October 11 — Luncheon for Santa Cruz-area alumni, 12 noon, Hollins House, Pasatiempo Golf Course. Contact Don Cleveland for reservations.

October 18 — Luncheon for San Francisco-area alumni, 12 noon, Ming's Restaurant, Palo Alto. Contact Hugh Dubb for reservations.

WOMEN'S TENNIS

Continued from page 13

This year, Caltech fielded a women's tennis team for the first time. Although they won no matches, team members played competitively and will lose only one player (Lucy France from Alliance, Ohio) to graduation. With the nucleus of the team returning next season, prospects are good.

Led by Tammy Choy of Wahiawa, Hawaii; Cathy Shapiro of Venice, California; and Thanh-Van Tran-Nhut of Gray, France, team members showed strengths that should enable them to defeat some of their SCIAC opponents next year.

Rounding out the team were Margaret Carter of San Jose, California; Pam Feldman of Los Angeles; Jo Beth Schlottman of Santa Barbara; Lisa Cummings of Denver; and Joy Watanabe of Seattle. SCIAC was dominated this year by Occidental and Pomona-Pitzer, both nationally ranked in the NCAA Division III standings.

Japanese factory: summer job locale for two undergrads

Two Caltech undergraduates are spending the summer in Hiratsuka, Japan, as employees of the Kitsuda Engineering Company. For the second year, firm owner Kaname Kitsuda (MS '33, MS '35) offered two Caltech students air fare, lodging, and a salary to work at his firm during the summer and to learn about Japanese management techniques and manufacturing methods. The students, selected from a field of applicants, are Ronald Forni, a senior majoring in engineering, and Karl Clauser, a junior majoring in chemistry.

Alumni Association welcomes Morrisroe, Morgan as honorary members

The Alumni Association welcomed two new honorary alumni at its annual meeting in June: David Morrisroe, vice president for business and finance and treasurer; and James J. Morgan, vice president for student affairs and professor of environmental engineering science.

Outgoing president Arne Kalm (BS '56) passed the gavel of presidency to Carole L. Hamilton (PhD '63). Donald P. Wilkinson (BS '48) was elected as vice president; David J. D. Harper (MS '77), as secretary; and Paul H. Winter (BS '44) as treasurer.

Elected as directors were: G. Edward Bryan (BS '54), Dwight L. Carey (BS '72), Collis H. Holladay, Jr. (BS '56), Charles H. Holland, Jr. (BS '64), Rhonda L. MacDonald (BS '74), and Adrian C. Smith, Jr. (BS '70).

Clark Award recipients chosen

Praveen Asthana and Richard M. Murray are 1984 recipients of Donald S. Clark Memorial Awards. Both will be seniors in the fall.

Asthana, a native of India, is an electrical engineering major. He has been treasurer of Lloyd House and an upperclass representative at Freshman Camp on Catalina Island.

Murray, from El Paso, Texas, is also majoring in electrical engineering. He is Interhouse Committee chairman and has been president of Blacker House for two years.

Clark Awards are given annually to two students for outstanding leadership and scholarship, with preference to those in engineering. They are in memory of the late Donald S. Clark, who was associated with the Institute for more than 50 years as a student, faculty member, and secretary of the Alumni Association.

LETTERS

Dear Editor:
When my husband, Victor Hounsell (BS '20), saw Arthur L. Klein's name in the obituary column of the April *Caltech News*, he related these facts to me.

One evening when he started to go home from work, Vic's brother, Theron, also a graduate of Caltech, found his motorcycle missing. It turned out that Arthur had hoisted it to the third floor with block and tackle and left it there. I don't know how Theron got home, but since street cars were available then, I presume they accommodated him.

Once when a dance was being given at Caltech, Arthur offered to pick up Vic in his dad's car. Vic was surprised when a long, black, sleek limousine with a liveried chauffeur arrived for him. As soon as they left the premises, Arthur told the chauffeur to "move over" so he could drive. Arthur's parents were not in favor of this, and he could only do it surreptitiously, but the chauffeur was glad to accommodate.

I wonder if his three children have ever heard of the long list of pranks that Dr. Klein invented in his youth, and which got him into trouble on occasion.

Cordially,

Edith M. J. Hounsell

Personals

1936
HISAYUKI KURIHARA, MS '37, MS '38, writes from Tokyo, where he is employed with the law offices of Nagashima and Ohno, "Last fall there was a small meeting of old alumni, including F. MASATO HIRANO ('25), THOMAS T. HIYAMA ('30), KANAME KITSUDA ('33, '35), JAMES T. GOTO ('57), and H. KURIHARA ('36), at a scenic garden restaurant in Tokyo."

1939
STEPHEN C. CLARK, Ex, reports from his home in Walnut Creek, California, that he retired in 1980 from the Department of Health, Education and Welfare and is now president of the DekaMeter Testing Service in Washington, D.C., which provides for automatic, on-line computer educational testing. He writes, "During a four weeks' visit to Japan and China, was honored by 25 former students to whom I taught English in Japan, 1940-41, including cabinet ministers, members of the Diet, and the president of Tsukuba (Science City) University."

1944
RONALD S. JOHNSON reports from Wide Awake Ranch in Madera, California, that he has " 'retired' from McDonnell Douglas to take on a cattle ranch. So far this year I've broken three colts without being busted myself. There are two more to go."

1947
SPENCER R. BAEN, MS, PhD '50, director of energy and mineral resources for Texas A & M University, writes from Bryan, Texas: "January 7, 1984, I was remarried. I married Pat Scott Castillon of Fort Worth, Texas. She was *Ft. Star Telegram* garden editor and a member/manager of the Ft. Worth Botanic Gardens. We are at home at 3718 Sweetbriar, Bryan, TX 77802."

BERNARD W. MARSCHNER, MS, Eng '48, PhD '54, reports from Ft. Collins, Colorado, that he retired in 1981 as chairman and professor of computer science at Colorado State University "because of disability caused by heart attack bypass surgery resulting in paralyzing stroke. Despite problems, through perseverance and hard work in therapy, I can now walk a little without a cane. I also do work on my computer for my personal achievement."

1950
ROBERT V. MacALLISTER, PhD, founder and director of MacAllister Chemical Research & Consultation in Clinton, Iowa, was presented with the Chemical Pioneers Award by the American Institute of Chemists at their annual meeting this past June in Montreal, for "discoveries that have had a major impact on advances in chemical science and industry and/or the chemical profession." MacAllister was cited for "his leadership and direction in pioneering the development of the commercial method of fructose production by the enzymatic isomerization of glucose."

DONALD P. MERRIFIELD, S.J., has become chancellor of Loyola Marymount University in Los Angeles, where he has been president for the past 15 years. Merrifield, who delivered Loyola's commencement address in May, expects that a key aspect of his work will be in programs for continuing education, adding that he does not see any immediate prospects for returning actively to physics.

1951
RONALD T. CALDWELL, MS '55, writes from Phoenix, Arizona, where he is senior engineering specialist with Garrett Turbine Engine Co., that he married Emma Wiltsy on May 31, 1983.

1952
STEINGRIMUR HERMANNSSON, MS, recently sent news from just below the arctic circle to update Caltech President Marvin Goldberger on his whereabouts and activities. He writes, "In the new alumni directory I note two small errors. My address is listed at Garoahreppur but should be Garoabaer. Secondly, I am no longer director of the National Resource Council. I have been in Government now for a few years and I do now hold the position of prime minister of Iceland."

1956
A. STEPHEN MAGER, MS '57, sends word from El Segundo, California, where he is a member of the technical staff with Aerospace Corporation: "Married (first time) to Emily Sawford in May 1983. For those who remember me as the slowest guy on campus, they might be interested to know that I've completed 75 26.2-mile marathon races during the past 10 years, including the Boston Marathon seven times and New York City Marathon three times."

1960
FRED L. NEWMAN, an advisory programmer with CDC Data Services in Campbell, California, has shattered the world record for the most free throws made in ten minutes, a feat he accomplished three times the weekend of May 18, 1984, at Caltech's Scott Brown Gymnasium, reports *The California Tech*. Newman also held the old world record of 281, which he demolished with his new totals of 286, 302, and 314 shots.

1964
P. FRANK WINKLER, JR., professor of physics at Middlebury College, Middlebury, Vermont, has been named The William R. Kenan, Jr. Professor of Physics at Middlebury, effective September 1984.

1977
WALTER J. BECKMANN reports from Vancouver, B.C., "In case you're interested in what I've been up to lately, I recently returned from two years of teaching English as a second language in Peking, China (August 1981 — August 1983). I am currently studying theology at Regent College in Vancouver."

RONALD B. MELTON, MS, PhD '81, senior resident scientist with Battelle, Pacific Northwest Labs in Richland, Washington, writes, "My wife, Carol Geier, and our son Christopher (2½) just welcomed a new son into our family. Andrew Geier Melton was born April 24. Mom and baby are doing great!"

1979
PHILIP L. ROGERS, Eng, research and development engineer with the Skunk Works at Lockheed Corporation, has been presented with Lockheed's Robert E. Gross Award for Technical Excellence for "the development of new concepts in electromagnetic, acoustic, and laser applications to vehicle systems." Phil, his wife, Alisa, also a Lockheed engineer, and their three children are currently residing in Granada Hills, California.

1980
CHARLOTTE L. MA, PhD, research chemist with the U.S. Naval Weapons Center in China Lake, California, writes from her home in Ridgecrest that "our second child, a son — Zayd — was born May 17, 1983."

1981
PETER MARTIN, MS '82, sends word that he and LISA FLITZ (BS '83) were married in La Jolla on June 25, 1983. He writes, "After a year of fun in San Diego, we're off to school again. Lisa will be attending Harvard in the fall to pursue a PhD in government and international affairs. I will be attending MIT in the fall to pursue a PhD in physics. But first, we're off to Europe this summer to kick back."

Obituaries

1923
CHARLES S. HOWARD on January 3, 1984, after a short illness. He was retired from Howard Rose Co., and was living in San Jacinto, California.

1924
JOSEPH E. MAYER on October 15, 1983, at the age of 79. He had been professor emeritus in the department of chemistry at the University of California, San Diego, and was living in La Jolla, California. An internationally recognized scientist and one of the founders of statistical mechanics in the United States, Mayer had also served on the faculties of Johns Hopkins University, Columbia University, and the University of Chicago, and was editor for 11 years of the *Journal of Chemical Physics*. He was a member of the National Academy of Sciences and a recipient in 1971 of Caltech's Distinguished Alumni Award.

JAMES T. MERCEREAU on April 6, 1984, after a long illness. He had been a colonel (retired) with the U.S. Army and was living in Palm Springs, California.

CARROL M. WAKEMAN, Ex, in October 1982. He had worked for many years with the Los Angeles Harbor Department, and was chief testing engineer when he retired. He then became an independent international consultant on the construction and protection of marine structures.

EDWARD A. WILSON on April 2, 1984, at the age of 88. He had retired from his position of chemical engineer for Union Oil Company of California and was living in Saratoga, California. He is survived by his wife, Eunice, two children, one sister, two brothers, six grandchildren, and two great-grandchildren.

1925
ALBERT J. FERKEL on January 14, 1984. He was retired from his position as superintendent with ARCO in Philadelphia and was living in Rancho Bernardo, San Diego. An enthusiastic world traveler since his retirement, he had recently returned from a trip to the South Pole. He endowed several trusts at Caltech during his lifetime and left his estate to the Institute. He is survived by his sister-in-law, Mrs. Karl A. Ferkel, and three cousins.

1930
IRA C. BECHTOLD on April 14, 1984, at his home in La Habra Heights, California. He had been president of the Bechtold Satellite Tech. Corporation, and is survived by his wife, Gladys, four daughters, one sister, ten grandchildren, and fourteen great-grandchildren.

1932
CLARK GOODMAN. He had been professor of physics, emeritus, at the University of Houston and was living in Coronado, California. His wife survives him.

WILLIAM R. SHULER on March 11, 1984. A major general (retired) with the U.S. Army, he had been director of installations with the Office of the Assistant Secretary of the Army and was living in Fairfax, Virginia.

1933
EARL E. BARNETT, on April 27, 1984. His wife, Beryl, writes from their Laguna Hills, California, home: "Earl retired from the phone company in 1962. His group was the first to put the Rose Bowl game on television. I'm so glad we were able to attend the 50th reunion of the class of '33!"

1935
HERMAN G. PORTMAN, JR., MS, on March 3, 1984. He had been retired for many years and was living in Palos Verdes Estates, California.

1937
ROBERT D. TOWNSEND, JR., MS '38, on February 9, 1984, after a long battle against ALS (Lou Gehrig's Disease). He is survived by his wife of nearly 42 years, Shirley, three sons, and two grandchildren.

1941
WILLIAM J. WAGNER, of a heart attack, on April 11, 1983. He was retired from his job as electrical engineer with Ken O'Brien & Associates in Long Beach, California. His wife, Keitha, writes from their Long Beach home, "I really feel [Caltech] is my school also."

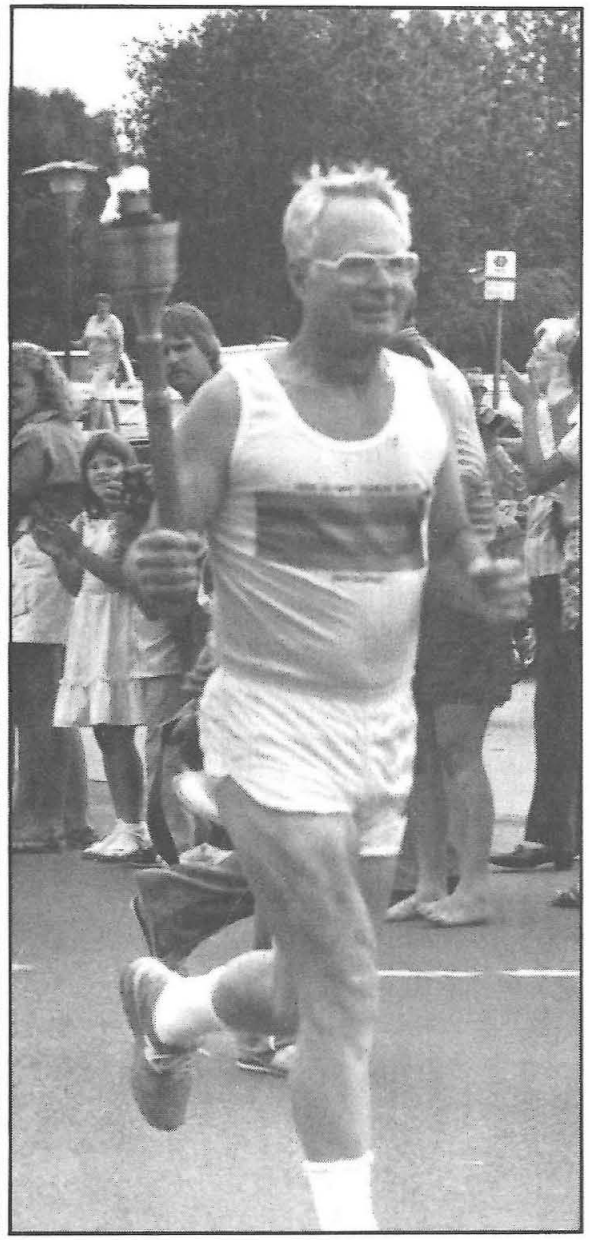
1943
DOYLE F. MATTSON, on March 4, 1984, at his home in Ashland, Oregon. He was retired from his job as chief test engineer and director of FBM field operations in the Missile Systems Division of Lockheed Missiles and Space Company in Sunnyvale, California. He is survived by his wife, Edith, three children, and four grandchildren.

1949
KENDALL F. FAMULARO, on February 29, 1984. He had been a physicist with the Weapons Division of Los Alamos Scientific Laboratories, and was living in Los Alamos, New Mexico.

1951
JAMES T. LUSCOMBE on May 7, 1984, of acute pancreatitis. He had been president of Luscombe Engineering Co. and was living in Pasadena. A memorial service was held at the Caltech Alumni House on May 12.

1955
ROBERT F. DOSS, Eng, on March 27, 1984. He had been president of Farnsworth Cannon, Inc., and was living in Destin, Florida. He is survived by his wife.

1959
JAMES L. C. FORD, JR., MS, PhD '62, in March 1984, at the age of 50. He had a history of heart disease. Ford was senior research staff member for Union Carbide in the physics division of the Oak Ridge National Laboratory in Oak Ridge, Tennessee, and had been group leader of the experimental support group at the Holifield Heavy Ion Research Facility. He is survived by his wife, Margarete, two children, Susan and Kenneth, one brother, and his parents.



Richard L. Van Kirk (BS '58), left, and Joseph B. (Ben) Earl (BS '44), right, carry the Olympic Torch along neighboring stretches of Las Tunas Drive as the torch follows its winding route through southern California on its way to the Coliseum. Van Kirk, who was president of the Alumni Association in 1976-77, worked on loan from Arthur Young & Co. as vice president for technology for the Los Angeles Olympic Committee. Earl was president of The Caltech Associates in 1977.

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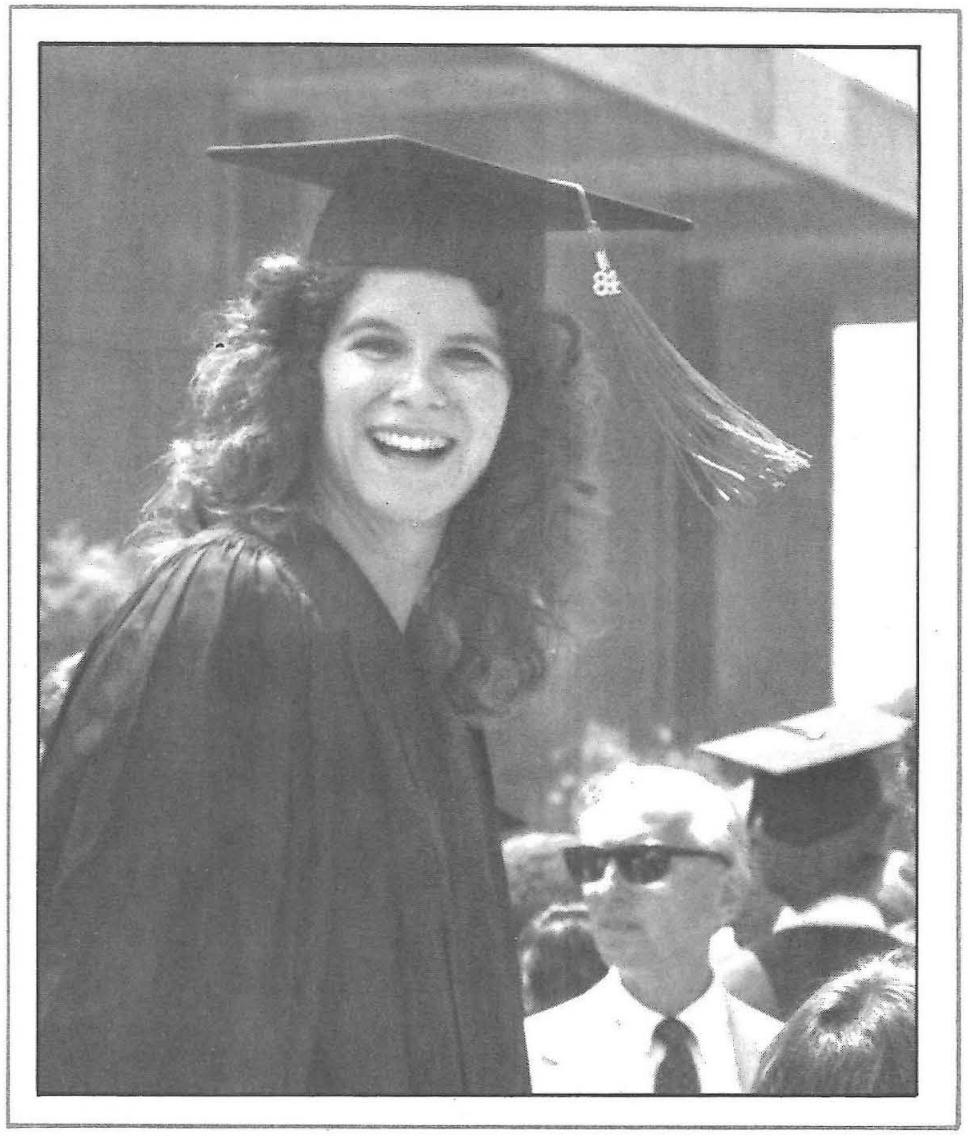

1984 graduate Eliza Sutton joins ranks of Caltech alumni.

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