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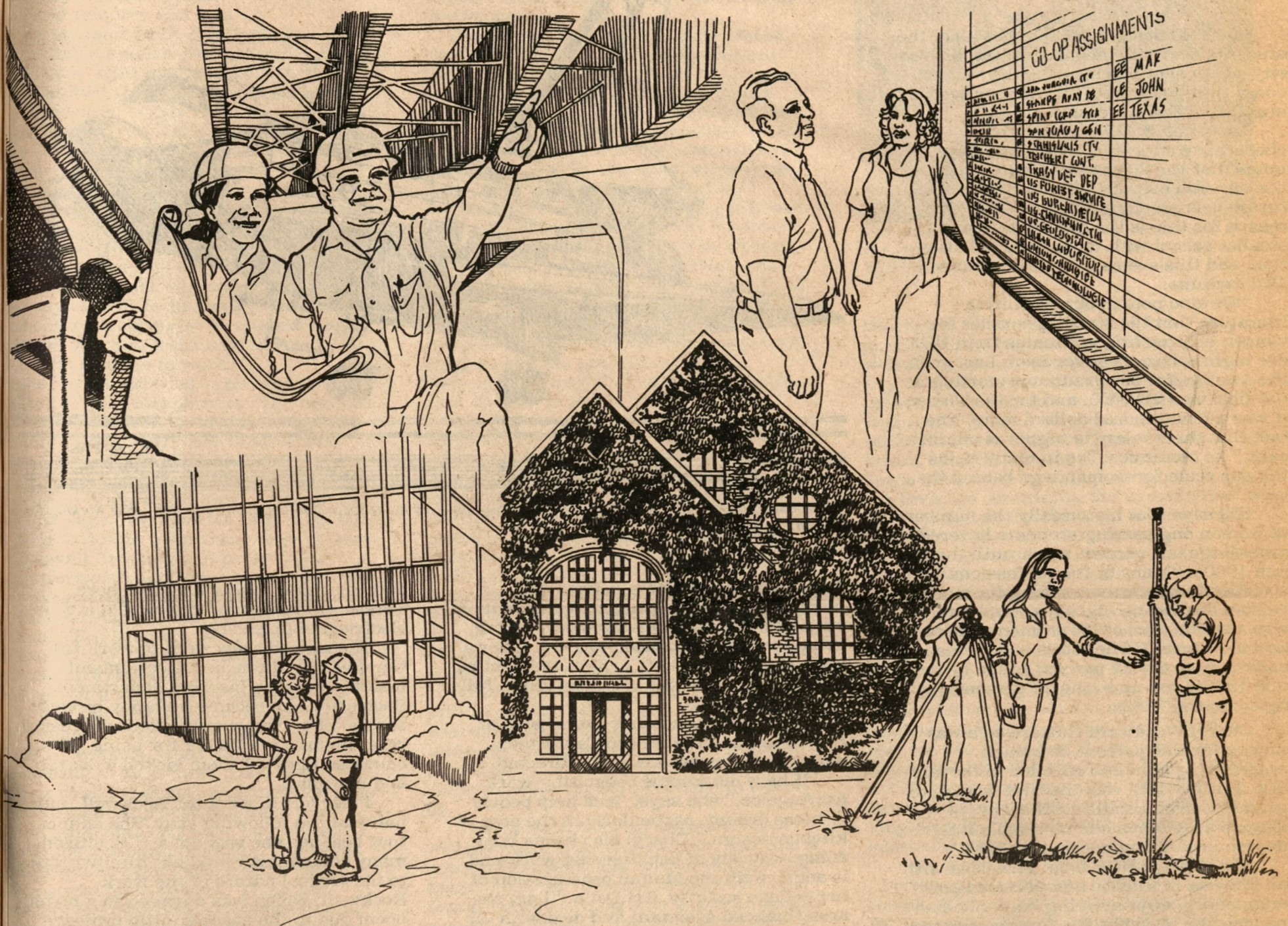
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Pacific Review

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THE UNIVERSITY OF THE PACIFIC

APRIL 1982



Women Engineers: Breaking New Ground

When the space shuttle Columbia touched down from its maiden voyage on April 14, 1981, Teresa Galvez Piper, Engineering '73, became very emotional. She had a vested interest in the success of the space shuttle project. Piper had been a part of the team that designed the guidance system and had helped develop the mathematical model for the Columbia simulators.

Piper is part of a growing new breed of women who have staked their claim in the engineering field. Increased numbers of young women are flocking to study in engineering programs, like the one at UOP.

"Women bring a new dimension to the engineering classroom, and to the profession of engineering," says Dr. Robert L. Heyborne, dean of the School of Engineering.

Continued

Pacific Review

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Some 20 percent (85 out of 440) of the students currently enrolled in the University's School of Engineering are women, constituting the greatest number ever enrolled in the profession at UOP.

Laurence A. Hill, director of cooperative education in engineering, notes that the 20 percent figure is about the national average. What attracts these future women engineers to UOP? "One reason for this is the fact that we are a smaller school with more personal attention, and this seems to appeal to women," Hill explains.

"We also note in our recruiting literature that the starting salaries for women engineering graduates from UOP are higher than those for men. Last year, the average for our graduates starting in the field was \$22,000, and for the women it was a few hundred dollars more. The fact that their salary is higher is significant," he continues, "as in many fields the pay scale for women lags behind the men."

Hill says that historically the number of women engineering students hovered around the one percent mark until the late 1960s. "Many of the professional societies then started pushing for more women engineers," he says, "and this was also the time of the women's liberation movement." The totals had increased nationally to the 12 percent range by the mid 1970s, and up to the 20 percent figure in the 1980s.

Charyl Woodward Butterworth was among the one percent of women engineering students enrolled in the late 60s. Butterworth was the first woman to graduate from Pacific's School of Engineering when she received a B.S. degree in civil engineering in 1968.

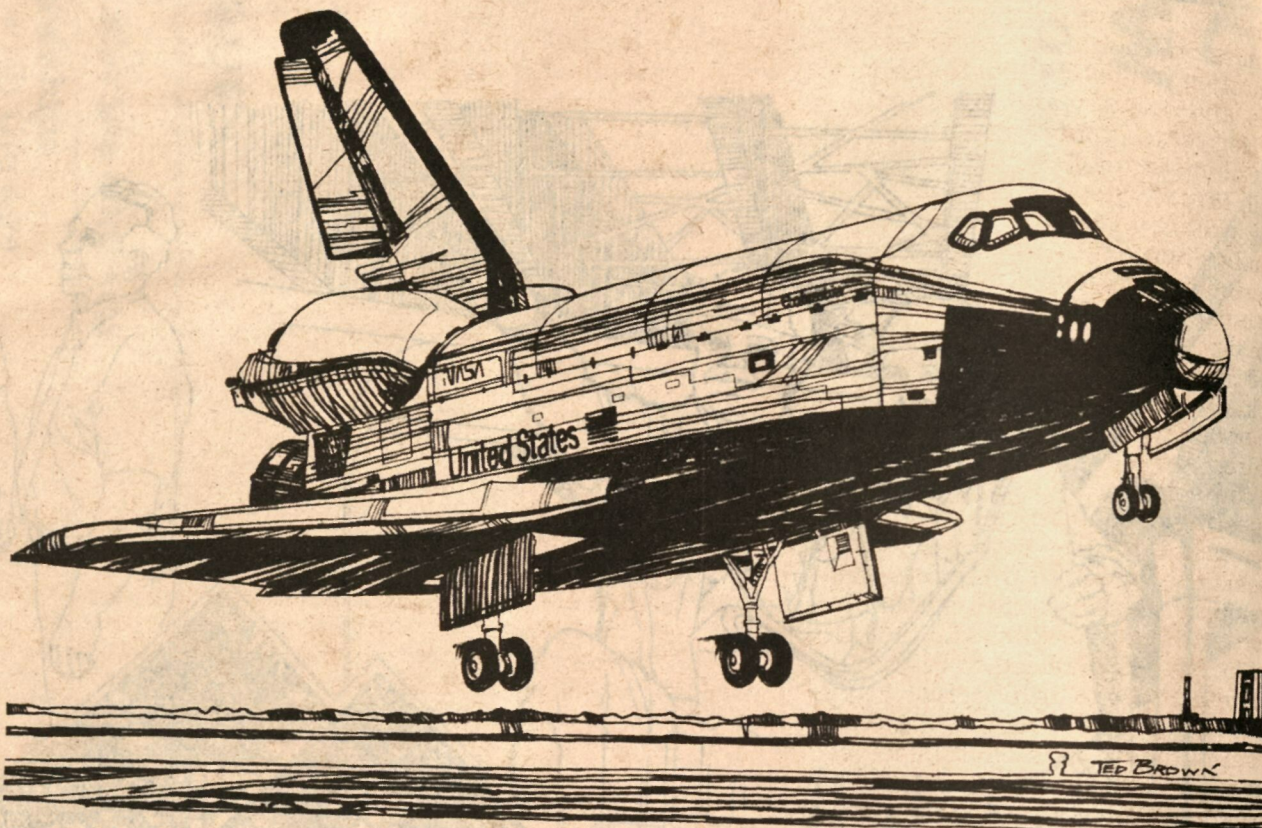
She came to UOP from Pasadena with an interest in science and decided upon engineering after arriving here. She had no idea she would be the first woman in the school.

Butterworth became a local celebrity just prior to graduation when the Stockton Record did a feature story on her achievements as the first woman to complete the engineering school.

After graduation she worked for a year with the City of Los Angeles, then went back East for five years. There she worked for a sanitary engineering firm in Boston. "My employer was very conservative regarding women engineers and I didn't get any field work for the first two-and-a-half-years," she recalls. Butterworth says she "fought an uphill battle" there as the firm had 500 engineers, but only three were women.

Charyl's husband Thomas is an engineer who completed doctoral work in biochemical engineering at MIT while they were in the East.

After they returned to Southern California she worked for a year with



Teresa Galvez Piper, a 1973 engineering graduate, was involved in the space shuttle Columbia project while working for Rockwell International.

Angeles Metal Systems, a firm that manufactures steel studs for construction purposes. Her work involved converting housing plans from wood to steel. After a year, she took time off to have the first of two children. She has yet to return to full-time engineering.

Charyl and her family now reside at Balboa Island in Southern California, where her energies are multi-directed.

"I have done some consulting work for Angeles," she says, "and help people in home design, particularly in the area of kitchen design." Charyl also keeps busy doing a variety of bookkeeping work and is active with the alumni organization of her college sorority, Tri Delta. "I am the area financial assistant and deal with all the collegiate chapters in California and Nevada," she explains.

Butterworth says she is interested in taking additional engineering courses in the construction field when her children are older.

Although Butterworth had paved the way, Teresa Galvez Piper was equally as much a pioneer in the engineering school. At the time she attended, in the early 70s, Piper was the only woman out of 150 students in the program.

"It was different, exciting and scary all at the same time," she says. "It was scary because you can imagine the challenge — the guys were smart and there was much competition."

Piper was not used to an all-male atmosphere, as she had transferred to UOP from the engineering program at the University of Panama, her native country. In October, 1968, the Panamanian government was overthrown, and the university closed.

In her search for another school, Piper chose Pacific because her former university, like UOP, had a Methodist affiliation,

and her sister graduated from here. Teresa graduated in 1973 with a B.S. in electrical engineering.

She immediately went to work for General Telephone in the equipment maintenance engineering department. Soon after she became unhappy because several of her male co-workers expressed resentment towards her for being young, educated (most of them lacked a degree), and a woman.

Piper left to work for Rockwell International the following year. She admits that because she was not a U.S. citizen, many companies would not hire her, due to the critical nature of the work. Rockwell, which was engaged in a hiring boom due to the space shuttle project, thoroughly checked her background and then placed her in its engineering division. (Teresa has since become an American citizen.)

"Even though Rockwell made the lowest offer of any of the other companies," Piper explains, "I was very excited about the space shuttle program."

She first worked on the shuttle prototype, the Enterprise, which was used only for the approach and landing tests in 1977. From 1976, Piper was working concurrently on the Enterprise and Columbia.

For the Columbia, she prepared the math models for the orbital maneuvering system and reaction control system which was used at the Shuttle Avionics Integration lab (SAIL simulation lab) at Johnson Space Center in Houston. She also coordinated the preparation of the math models of all life support systems used

ring the different stages of the Columbia mission, including the external tank separation, on-orbit insertion and operations, and re-entry and landing.

Her years of work culminated when the Columbia made a perfect landing last April. Piper, who was pregnant at the time, watched the landing on television from her home. "I can't find the words to describe how I felt," she says, "but I cried like a baby." Eight hours later, Teresa gave birth to her third child, Melissa.

Presently, Piper is on leave from work, devoting herself to raising children. She hopes to return to Rockwell when the children are older. Meanwhile, Rockwell has contacted her on several occasions, requesting that she rejoin the company. Piper says it will be necessary to return to school to "freshen up on engineering developments and learn new things" before she returns to work.

She, too, is married to an engineer Kenneth Piper, Engineering '73, and has found that she and her husband are able to communicate with each other about their daily responsibilities. "When he comes home and talks to me about work I think I can understand him a little bit better," she says. "Sometimes I can help out. I used to do the same thing when I was at Rockwell. It works out pretty good."

Butterworth and Piper both agree that their experience as students in a male-dominated program was somewhat unusual. But they are not alone. Today's professors look out at a classroom equally divided between the sexes, whereas only a few years ago all they saw were men.

"I feel the women have brought up the performance of the entire class," says Dr. James R. Morgali, who has taught engineering at UOP since 1961. He hastens to add that this performance is no doubt influenced by the calibre of the women students. "We have had some awfully good women students," he says, "and they also have made a difference from a social point of view. Their personalities are different in the classroom, and it makes a difference. I enjoy having them in the classroom. Engineering can be hard work, and to have this dimension to the program is healthy," he adds.

Dean Heyborne voiced similar remarks: "In the classroom women bring a real challenge to the male students. In general, women in the class tend to be more highly motivated, perhaps more afraid of not succeeding than the males, and thus they tend to study more and to be more diligent in the learning process."

Dr. Robert H. Hamernik directs the Civil Engineering Department that has attracted the majority of women students. He recalls when Butterworth first enrolled and what a difference she made as the first woman in the program. "The students would constantly play tricks on her. One time they carried her right out of the building, in her chair. But she took it all in fun and was very good herself at getting back at the guys." When the Stockton Record did the feature story on Cheryl, Hamernik, who has taught at

UOP for 20 years, indicated in the article that it would be a long time before another student like her appeared on the Pacific campus.

Reflecting back on that time period, Hamernik says that the atmosphere is totally different now, as women are very common in his classes. "Now a young woman in the classroom is just another student," he says. "I expected this evolution of more women in the profession to take place, but the numbers we have obtained still surprise me sometimes."

Another area of engineering that has been influenced by the women involves the student organizations. "The women have taken a real leadership role," says Morgali in mentioning that the Society of Women Engineers has a campus chapter. Also, the current president of the Associated Engineering Students is Gail Hughes and the president of the American Society of Civil Engineers student chapter is Paula Dunn.

Hughes was one of three UOP engineering students recently honored for her achievements on campus by the Engineering Council of Sacramento Valley. She is an electrical engineering major with career interests in aeronautical or biomedical engineering. Hughes says her high school interests in math and science led her into the engineering program. "I noticed women were getting into fields like this while I was in high school but didn't really choose the profession on the basis of what it offered me as a woman," she explains.

One of the school's most attractive selling points is the required cooperative education program. Hill, whose duties encompass the placement of UOP engineering students as part of this program, says employers are eager for women in the co-op.

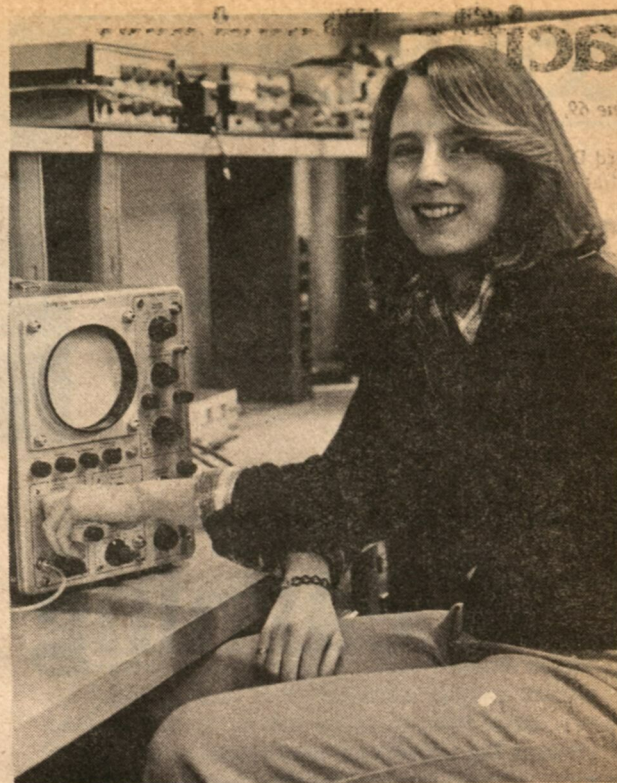
"Most all of the businesses we deal with are very eager for women, and this is especially true for the larger engineering firms," Hill says. Butterworth expressed regret over not being able to participate in a co-op experience. She graduated two years before that program was launched at Pacific. "I'm very sorry to have not been a part of this program; it's the most valuable experience you can have while an engineering student" she says.

Since Butterworth paved the way in 1968, a total of 33 women have graduated from the School of Engineering.

Piper, undoubtedly, has achieved about as much success as any of them. But many more are following.

Rae Ann Eckstrom, the lone woman in the Class of 1976, is working in Sacramento, while Rebecca Zapatero, Class of 1979, is doing engineering work in the Stockton area with the State Department of Transportation.

If the Class of 1980 is any indication, women will become more prominent in



Kerry Robertson, a 1980 UOP engineering graduate, is now enrolled in the MBA program at the University of Washington.

the future. That class, to date, has graduated the highest percentage of women. It also marked the first year that any of the annual academic awards presented at commencement went to women. In fact, all the academic award recipients were women. Two of these award winners, Tracie Hirabara and Joyce Lem, were co-valedictorians.

Both are continuing the success that they started at Pacific. Lem is pursuing a master's degree at Columbia and Hirabara has received a master's degree from the University of California at Berkeley and is currently working in San Jose with an engineering consulting firm. Another student from that class, Kerry Robertson, is enrolled in the MBA program at the University of Washington.

Heyborne says the women engineering students have earned all of the top academic achievement awards at graduation for two of the last three years. He notes that both Hirabara and Lem earned a 3.97 grade point average "after five years of hard academic work." This year Hughes will graduate with a 3.99 grade point average.

"As a result of this" notes Heyborne, "I often say to entering freshmen that the female students will make life miserable for the males. My reference, of course, is to the fact that if a young man aspires to true academic excellence...wanting to end up at the top of his graduating class...then he is most certainly going to find some extremely stiff competition from the females with whom he will be competing for grades. This is a very healthy situation and adds a refreshing dimension to the teaching and learning process."

Clearly, the field of engineering is witnessing a momentous change, as the rate of women workers increases. As many more begin to enroll in engineering programs like the one at UOP, the future promises a more representational balance between the sexes.

For the day has arrived when young ladies grow up with aspirations of working on such projects as the space shuttle, thereby following in the footsteps of women like Teresa Piper and Cheryl Butterworth.

—R.C. & R.D.

Learning To Learn

When Sally first came to my office last October, she was totally distraught. Her desk, she told me, was piled high with books and papers. She was studying long past midnight every night and not getting through with her work...had failed her first test in principles of biology...had a paper coming up in expository writing and didn't know where to begin. She was sure she was going to fail her first semester at UOP. Sally was unprepared for learning at the university level.

Sally is not alone. Each semester a percentage of students arrive at universities who are not prepared to deal with college. Some don't know how to manage the new freedom and personal responsibility that comes with college. Others lack the skills of thinking and organizing that college level work demands — or are not using efficiently and effectively the skills they presently have.

This is not a new phenomenon. In 1852, Harry P. Tappan, during his inaugural address as president of the University of Michigan, warned that universities were admitting students who were poorly prepared. In 1907, over half the students who were allowed to enroll at Harvard, Yale, Princeton and Columbia actually failed to meet the universities' entrance requirements.

Colleges have always had under prepared students. Perhaps there are greater numbers today, but more students are attending college than ever before. In 1950, only 50 percent of the students finished high school and of those only 10 percent went on to college. In 1980, 85 percent of the students finished high school, and 50 percent of those went on to college. There is no other Western nation that does as well as the United States in providing access to higher education for its citizens.

Colleges have always had students who failed. Even prior to the days of "open admissions," large numbers dropped out before the end of their first year. The effects were often traumatic... students (and their parents as well) were left stranded, overwhelmed with shame, worry, fear, and a sense of failure.

Today there is greater concern for retaining students. Colleges are in transition. Faced with rising costs, reduced financial aid, and the specter of declining enrollments, they must actively compete

for students to fill their classrooms. They must often admit persons with lower skills and retain them as students if they are to survive as institutions. In addition, administrators and faculty are more likely to feel that once a student is admitted, the college assumes a moral and educational obligation to do all it can to provide for that person's development.

Sally's situation is neither unique, nor new. But today she is more likely to receive the assistance she needs to become a successful student.

At UOP that assistance begins with new student orientation. Specially trained student advisors administer diagnostic reading and study skills tests and conduct a series of "survival" sessions designed to introduce skills such as time management, study strategies, and test taking. Following orientation, both student and faculty advisors routinely touch base with their students, monitoring their progress and offering further diagnosis and counseling.

Students also discover an assistance program at UOP offered in the Academic Skills Center. The Center's main purpose is to help students "learn how to learn" by dealing with the thinking and organizational strategies which are necessary for learning effectively and efficiently. The Center focuses on how history, foreign languages, humanities, sciences, and other subjects may be learned, rather than with the content within each subject.

Many students have had little or no formal instruction in how to learn. They may have acquired some strategies by trial and error, but these skills may not be sophisticated enough for the demands which are put upon students at the university level.

Through organized courses and independent study programs, the Center enables students to refine and sharpen these learning skills. Instructors at the Center are like athletic coaches. They introduce a skill and then assist as students practice under varied conditions, making sure they can apply what has been learned.

Services at the Center are available to all students at all levels. The skills of thinking and organization are open ended. They can be polished and refined throughout one's lifetime. Many students who come already have outstanding skills but wish to become even more proficient in dealing with the continuous deluge of



Peg Langer is an associate professor in the School of Education and director of the Academic Skills Center at the University.

new information and knowledge generated in today's technical world.

What excites me the most about our efforts at the Center is to watch people change...visibly change.

Take Sally, which isn't her real name. By the end of last semester, she was able to cope with the material on her desk. She approached her studies in an effective, efficient manner. She was succeeding. She had an entirely different concept of herself. She completed the semester with a 2.5 grade point average. "I am competent," she said. "I can learn what I want to learn."

College is not merely training for life. It is life. Helping students learn to learn is helping them to reach their full potential as human beings. Sally's experience had improved the quality of her life. And that's what it's all about.

Commentary is an article reflecting the opinion of the author on an item of interest to a member of the University community.

A Different Level Of Lacrosse



It is said that most trends originate on the West Coast. One exception to that adage is the sport of lacrosse.

Born on the East Coast, lacrosse is revered for its fast pace and excitement. It originated in the 17th century by North American Indians. It was established in the United States around 1880, when Eastern amateur athletic clubs and universities began playing the game, and has drawn the attention of many smaller colleges and Ivy League schools.

But only recently has lacrosse begun to catch on in the West. UOP fielded its first team in 1974, when the Northern California Lacrosse Association was formed. In that division Pacific joined Stanford, UC Berkeley and UC Davis.

Out here the game is considered a "club" sport. The players organize, and for the most part, coach themselves. The experience can be rewarding and frustrating at the same time.

Rick Jeffery, UOP's player/captain, knows this well. He is the organizer and administrator who is responsible for keeping the Pacific team together. It's his job to ensure that all 18 players show up for the match. And, at practice, he sets up drills and offers constructive advice. Sometimes, the players don't show for practice. "It's hard to get on the guys," he concedes. "But it's good for my communication skills."

On the field Jeffery is assisted by the team's leading offensive player, J.T. Landreth, who learned the game back East.

Jeffery, a senior, began playing lacrosse just last year. He is like many of his teammates who joined because they thought it would be fun to learn the game.

To someone unfamiliar with it, lacrosse is similar to ice hockey, only it is played on a football-sized field of grass.

All players wear helmets with masks and thick padded gloves to protect them from the ball and the sticks. The rules allow the team without the ball to use their sticks to force the ball free. This is called a "stick check." "Body checks" also are allowed. However, the Eastern players are reputed to rely more on finesse and fine passing. "We play the West Coast version of lacrosse," Jeffery says tongue in cheek. "The players out here are definitely more physical."

Players from the East, Jeffery notes, make crisp passes that rarely touch the ground, a nuance of the game that is missing from the California style of play.

A player who has these skills gains almost immediate acceptance on the Pacific team. Landreth is one example. Another is Chris Harkins, who played goalie for UOP for seven years, though he never attended the University. Harkins was playing for the team while attending Stagg High and Delta College. Greg Zat-

man, player/captain in 1980 and 1981, says this is not unusual.

Zatman contends that since lacrosse is a "club" sport, the team is entitled to play whomever it wants, including those not enrolled at Pacific. His teams managed respectable 5-4 records in two years, including an upset victory last year over Stanford, which has a coach and nearly 40 players on the squad.

He disagrees with Jeffery that Pacific needs a coach. It eliminates the pressure to play only the "best" athletes, he says.

Zatman does agree with Jeffery about the West Coast style of play. "California lacrosse," he says, "doesn't even compete on a national level." Also, both feel the "club" aspect fosters a camaraderie that wouldn't be present in the face of an authority figure. It stems from the players equally sharing in the team's fortunes.

Fortune is one thing, however, that has been missing from this year's squad. The team currently stands in last place with an 0-5 record. But this is a rebuilding year after losing nine players to graduation. Jeffery isn't dismayed. "I'd rather be out there competing and losing than not competing at all," he says.

—R.C.

Student Aid Future Uncertain

Financial aid programs for college students have received considerable publicity in recent weeks, due to the proposed 1983 federal budget which sharply curtails funding in this area.

UOP Acting President Clifford J. Hand, recognizing the seriousness of major financial aid cuts for independent institutions such as Pacific, recently issued a statement covering this entire area of government policy and student financial aid.

His action came after a special task force of students, faculty and administrators reviewed the issue during a four-week period.

Hand prefaced his remarks by noting the Reagan budget proposals at this time are just tentative and have yet to be finalized by Congress. "Until the budget proposals are acted upon by Congress, the full impact of any financial aid cuts is unknown," he said.

The six-page policy statement notes that student financial aid programs have been cut substantially in the past two years, by \$453 million in 1980-81 and more than \$200 million in 1981-82. The proposed 1983 budget would drop federal support in need based student financial aid programs 49 percent below current levels.

"The proposed budget would completely eliminate federal support in three of the five need based programs which

serve UOP students from low and middle income families, plus remove graduate and professional students from eligibility for guaranteed student loans," said Hand. The three areas that would be eliminated are supplemental educational opportunity grants, state student incentive grants and national direct student loans. The Reagan proposal also would change the eligibility rules for Pell Grants to effectively lower this funding by 45 percent, plus reduce college work-study funds by \$150 million.

Hand concurs with many college and university presidents who have recently noted that these cuts would be quite harmful to independent colleges like Pacific, as they involve an estimated \$1.2 billion that could cut undergraduate enrollment at independent colleges nationwide by nearly 30 percent.

Paul Phillips, director of student financial aid at UOP, reports that the 1983 budget proposals could mean \$3 million less in financial aid for students on the Stockton campus.

The UOP statement recognizes that higher education must share in budget cuts that are needed at the federal level to solve the economic problems facing the country, but it says higher education should not be expected to shoulder a larger burden than other programs facing cut-backs because of the long term consequences to the strength and defense of the nation from an educated citizenry.

"Federal student financial aid has been recognized and remains a key ingredient in assuring a literate and productive citizenry," says Hand in recommending these six actions to retain a strong system of independent higher education:

1. For Congress to implement the level of funding for fiscal year 1983 approved under the Reconciliation Bill, passed in August 1981.
2. For Congress to disapprove any further reductions in student financial aid beyond those already provided under the current Continuing Resolution for fiscal year 1982.
3. For Congress to oppose the elimination of federal support to the need based financial aid programs which have developed over a 24-year period which serve students from low and middle income families.
4. For Congress to re-evaluate the impact of Social Security students' benefit programs which have been eliminated without an alternative program to meet survivors' educational needs.
5. For Congress to support the inclusion of needy graduate students in the Guaranteed Student Loan program.
6. For the federal government to adopt policies which would assure that all federal student financial aid programs be directed only to needy students from low and middle income families.

—R.D.

Arsenic Research Involves Drinking Water

The research findings of a UOP School of Pharmacy professor could hold great importance for the future of this country's water quality standards.

Dr. Donald Shirachi, a 1960 Pharmacy graduate, is researching the potential of arsenic in drinking water as a cancer promoting agent. The results of his work will be used by the Environmental Protection Agency to establish acceptable levels of arsenic in drinking water.

At present the EPA's safety standards for arsenic in drinking water are controversial. In certain parts of the United States and in other countries of the world the water supplies are known to contain high levels of arsenic. Meanwhile, those same areas have reported an increased incidence of cancer cases. No direct experimental evidence, however, has been found linking arsenic as a carcinogen. Shirachi's results could rectify the situation.

The research scientist has been studying the effects of arsenic since 1976, when the EPA awarded him a \$180,000, three-year grant. "We wanted to find out at what levels of concentration in drinking water arsenic acts as a carcinogen, or promoter, of cancer," Shirachi says.

Due to the costliness of animal research, Shirachi used a less expensive method of cell culture techniques. Cultured cells reproduce more rapidly than animals, thereby giving quicker results. By exposing the cells to arsenic, Shirachi could chemically develop a potential cancer cell that is subsequently injected into animals to form a tumor. Shirachi had proposed that tumors would develop in the animals, thus providing the direct evidence needed to prove arsenic is a carcinogen.

But before he could arrive at conclusive results the grant terminated. Shirachi had established toxicity levels for each of the four species of arsenic, but it was determined the results required further investigation.

In 1980 the EPA awarded Shirachi a second three-year grant, this one totaling more than \$300,000. It required that the research should be performed directly on animals.

Using a rat liver model, Shirachi proposed to discriminate whether arsenic is an initiator or promoter carcinogen. The liver was chosen because it acts as the body's filtering agent to detoxify poisonous chemicals. It also is one of the locations for tumor formation associated with arsenic exposure.

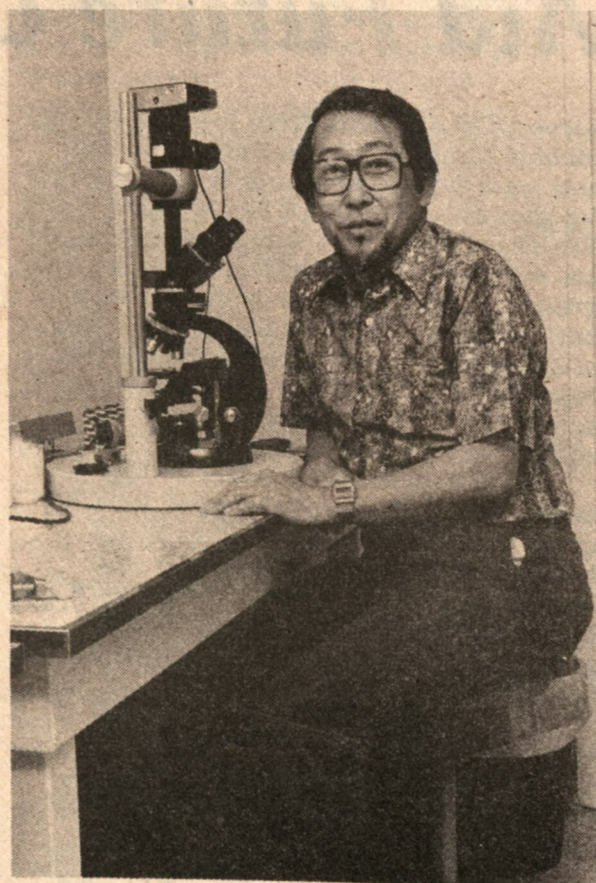
In the early test stages there appeared to be some evidence for arsenic to be a potential promoter carcinogen in the liver when combined with a known initiator carcinogen. But then Shirachi's five-person team discovered something unusual.

After nine to 10 months of drinking arsenic the rats were dying from what appeared to be kidney tumors. The model had been designed to test if cancer would

develop in the liver. Instead, it first showed up in the kidney, the organ in the body which is responsible for excreting harmful foreign matter. These findings have prompted Shirachi to shift the emphasis of his work to studying the effects of arsenic on kidneys.

Although Shirachi admits more work needs to be done, his latest evidence clearly suggests that arsenic is the probable cause of tumors in rats' kidneys. The results could become the cornerstone of the EPA's future standards for allowable levels of arsenic in drinking water.

"These studies demonstrate the potential danger of arsenic and should point other government agencies in the direction of further study," Shirachi says. He notes that arsenic can be found almost anywhere, but it is especially present in industrial waste water, many work places and agricultural fields. The latter fact is important to San Joaquin Valley residents, Shirachi says, as many farmers employ weed killers and pesticides which contain arsenic.



Donald Shirachi

In addition to his research, Shirachi teaches endocrine physiology at the School of Pharmacy. He joined the staff in 1971.

Shirachi was born in Salinas and reared in Watsonville. After attending Hartnell Junior College for one year, he served as a naval hospital corpsman from 1951-1955. During the last two years of his duty Shirachi was stationed in Yokosuka, Japan, where he reaffirmed his interest in medical science and learned more of his ancestor's language and culture.

Shirachi returned to the United States, spent one more year at Hartnell, then attended UOP from 1956-60. During that time he assisted Dr. Carl Riedesel in supervising classroom laboratories in physiology and pharmacology. He graduated in 1960 with a B.S. degree and spent the next two years working in Stockton and Watsonville pharmacies.

He returned to school in 1962 and received an M.S. degree in pharmacology from University of California at San Francisco in 1965 and his Ph.D. in pharmacology from Purdue University in 1968.

Shirachi was a United States Public Health Service Postdoctoral Research Fellow in pharmacology at UC San Francisco from 1968-1970. He was primarily responsible for research in brain biochemistry, but he also taught pharmacology classes.

During a 1979 visiting professorship to Brazil he met his future wife, Fatima, who was a graduate student at the Federal University of Ceara. They were married in 1981.

To unwind Shirachi says he likes to listen to jazz, as well as other kinds of music. He enjoys photography but has little time to spend on it anymore; arsenic research is very demanding.

The research scientist notes a touch of irony that while he is working to help establish EPA guidelines, the Reagan Administration is attempting to ease regulations. That will not dissuade him, however, from applying for more funding when his current grant terminates in 1983.

Shirachi next hopes to establish a kidney model for screening potential carcinogens. The future research, combined with the results from his present study, should lay important groundwork for the protection of human life in the years ahead.

-R.C.

International Classroom Takes Student To Poland

University of the Pacific students have the opportunity to travel to several foreign lands.

But few have experienced the overseas education obtained by Barbara Webster. She has been to Nepal and Poland.

The 21-year-old senior will graduate this May as part of the last class to complete Raymond-Callison College. It seems fitting that she is a student in this special UOP college that has historically attracted a type of student more prone to the challenges of an overseas experience that is atypical of higher education in America.

Webster's reasons for visiting Nepal go back to her childhood years in Nevada City. "I have always been thrilled by the mountains and spent a lot of time in the Sierra as a child on camping trips with my family. The Himalayas have always held a special fascination, because of their height. I remember once looking at a globe for the highest mountains in the world, finding the steepest area to be Nepal, and then saying to myself, 'I want to go there.'"

While most of her Raymond-Callison colleagues were spending their overseas time in Japan, Webster was able to arrange a semester of her sophomore year in Khatmandu, Nepal. "Soon after I arrived there I heard about these great views of the mountain peaks that one could experience on a clear day. But it was so rainy that there weren't any clear days. Finally, one day broke clear and we were able to see the Himalayas. They are so large and majestic that you actually have to tilt your head way back just to see the top. What a beautiful sight," she exclaims, when enthusiastically recounting an experience from two years ago.

Webster was able to visit Nepal through the Experiment in International Living, a worldwide organization that emphasizes experiential learning "where the students blend into the culture of their host country." She lived with a peasant family for four months while exploring the country and taking classes at a nearby school.

The international studies major, whose career hopes encompass thoughts of working in the development of third world nations, cultivated a fondness for travel by her experience in Nepal.

After spending a year on the Stockton campus, she was able to arrange the trip to Poland through the Interfuture Program. This is an organization concerned about the inter-cultural aspects of the future on a worldwide basis. Her project in Poland was to complete research work comparing the Neighborhood Mediation Centers of the U.S. with the Social Reconciliation Commissions active in Poland.

"In Poland these commissions are a para-legal organization established to mediate neighborhood disputes," she explains, and her research was to compare their organization and effectiveness with similar groups in the U.S., the nearest one of which is located in Los Angeles.



Barbara Webster

Although the UOP student failed to complete the research project — for reasons beyond her control — the three-month stay in Poland has left vivid memories that will last a lifetime.

For example, she has been back in the U.S. for several months but explains that she is still sorting out her thoughts on the experience of being in Poland at such a critical time in the history of this Communist dominated country.

"A month ago I would have said the most important thing I learned was something about the futility of the human endeavor, but now," as her voice tails off and she shrugs her shoulders, "I don't know. I know I have changed, but it will be some time before I realize how much. Right now I'm not sure I can verbalize my thoughts on this."

With a Solidarity button on her jacket and occasional glance at a framed picture of Time magazine's Man of the Year, Lech Walesa of Poland, on the wall in her room, Webster tries to recount what the three months were like in Cracow, the historical and cultural capital of Poland that is located south of Warsaw. Cracow, incidentally, is the home of Pope John Paul II.

"I spent a lot of time fighting the bureaucracy. It is simply incredibly frustrating to do anything in that coun-

try. I don't see how the Poles do it. It takes three to five forms to get anything done. You can spend your life trying to break through the red tape," and this was the situation that halted her research studies.

Although her thoughts about the bureaucracy are characterized by frustration, her comments about the Polish people radiate a sense of admiration.

"I had done a lot of reading before I went to Poland to learn about the people there and the history of the area. I loved the country, and I loved the people there, although I hated the conditions they live under. The Poles have many qualities, I feel, that someone in this country would associate with the elderly. They also possess a sense of being world-wide and weary from a life that has been a constant struggle through various repressive regimes. Despite this, however, they haven't lost a zest for life, and maybe they enjoy it more than we do because they appreciate the small things to the fullest. If you know and understand death and suffering, you might enjoy life more. A comment I heard a lot from the Poles was that Americans today really don't understand war, because they have not experienced it on their soil.

"We are so complacent here in our comfort and buffered from much of what goes on in the rest of the world. In Europe the one thing you are sure of is that you can't be sure of anything."

Webster feels that living in an international dormitory at UOP — she is a resident assistant in John Ballantyne Hall — helps her maintain a global perspective on life. She notes, for example, that several Iranian students live in her dorm, "and they have gone through a lot more than I have."

The Pacific student, whose activities include the International Students Association, said during her stay in Poland she never witnessed any fighting or shooting. "But I could feel the tension, and it was a scary feeling. I didn't fear for my life, but I was afraid I would see what I believed was going to happen there." The imposition of martial law occurred after she had left the country.

Webster feels that the immediate future of the country will see the Polish people submit to the restraints of martial law but maintain a spirit of revolt. "The government will make some concessions that will last for awhile, but 10 years down the road it will start all over again."

She may be there to see it happen. For this international traveler, whose ties to Poland are reflected by the statement that "I feel sort of Polish," vows to return to the country.

Whether or not this happens, Barbara Webster has etched in her memory experiences in Nepal and Poland that few students are ever able to obtain.

—R.D.

Original Art Works By European Masters Donated To University

When someone thinks of assisting the University, a monetary gift is often thought of as the only way to help support Pacific.

But there are many other forms of gifts which help the University grow and operate in a sound fiscal manner, and these include works of art.

The pieces shown on these pages are among the more than 300 paintings and graphics that have been given in recent years to the University. Included is a series of 41 original etchings by Rembrandt that cover a variety of subject matter and virtually his entire career, according to Dr. Lucinda Reinold, an assistant professor of art history at UOP.

Other gifts in the archives include works of California artist Clarence Hinkle, who did his painting in the early 1900s, modern artists such as William Nelson, American classic artist William

Keith and pieces from such European classic artists as Hogarth, Durer, van Leyden, van Dyck and Potter.

"These gifts help to further the educational goals of the institution and certainly are of great value to Pacific," explains Thomas W. Mooney II of the Development Office. Art works are accepted by the University for historical, instructional and exhibit purposes, or to sell for operational income.

In recent years, Mooney says, friends of the University also have made gifts of property, such as their residence, ranch land, dairy farm, vacant lots in cities, a Delta cruiser, antique Chinese furniture and highly appreciated securities which had produced little income previously for the donors. "All such gifts are beneficial to the University and vital to its annual support," Mooney concludes.



"Agony In The Garden" by van Leyden is an engraving from 1421.



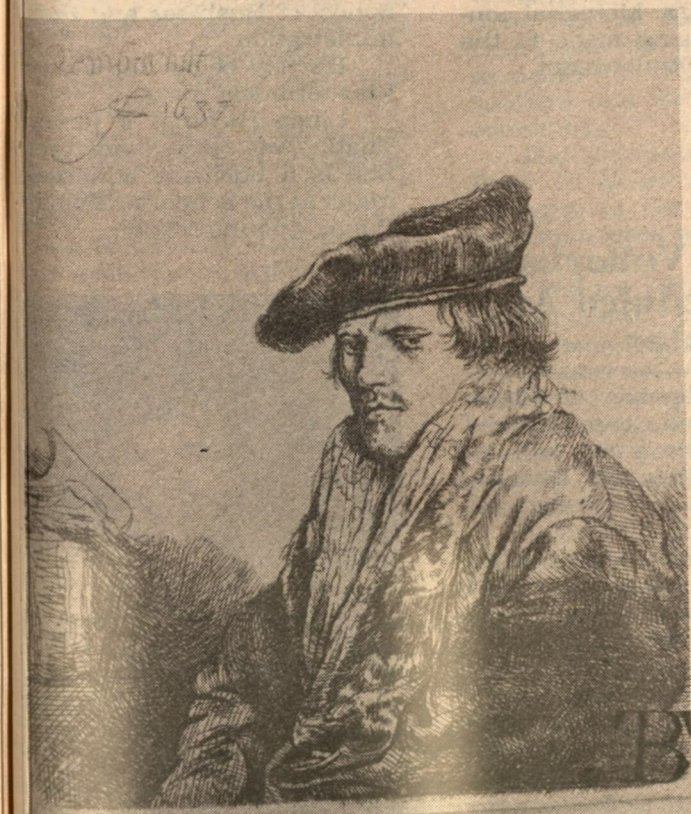
"Beggars At The Door" is a 17th Century



This Hogarth engraving from 1716 is a character portrait.



Rembrandt.



"Young Man In A Velvet Cap" is an etching by Rembrandt from 1637.



This wood cut by Durer from the 16th Century is titled "The Annunciation."



LACOBVS DE BREVCK
ARCHITECTVS MONTIBVS IN MANNONIA.

This engraving by van Dyck is a portrait from the 17th Century.

UOP Today

Commencement Schedule Announced

The 1982 commencement schedule for the University has been announced, and most of the exercises on the Stockton campus will be May 21-23.

On Friday, May 21, the All University Convocation is planned for the Spanos Center at 7:30 p.m. The guest speaker will be E. Pendleton James, assistant to President Reagan for presidential personnel. All the advance degrees will be awarded at the Convocation.

On Saturday, May 22, the schedule will involve College of the Pacific at 9 a.m. on Knoles Lawn, Elbert Covell College at 11 a.m. in the Long Theatre, the School of Engineering at 1:30 p.m. in the Conservatory Auditorium, School of Education at 4 p.m. in the Conservatory Auditorium, and Conservatory of Music at 7:30 p.m. in the Conservatory Auditorium.

On Sunday, May 23, the School of Business and Public Administration ceremonies will be at 8:30 a.m. on Knoles Lawn.

The School of Pharmacy commencement will be at 10 a.m. on Sunday, May 16, on Knoles Lawn. The McGeorge School of Law ceremonies in Sacramento will be at 2 p.m. on Saturday, May 29, in the Civic Auditorium and the School of Dentistry commencement in San Francisco will be at 4 p.m. on Friday, June 18, in the Masonic Auditorium.

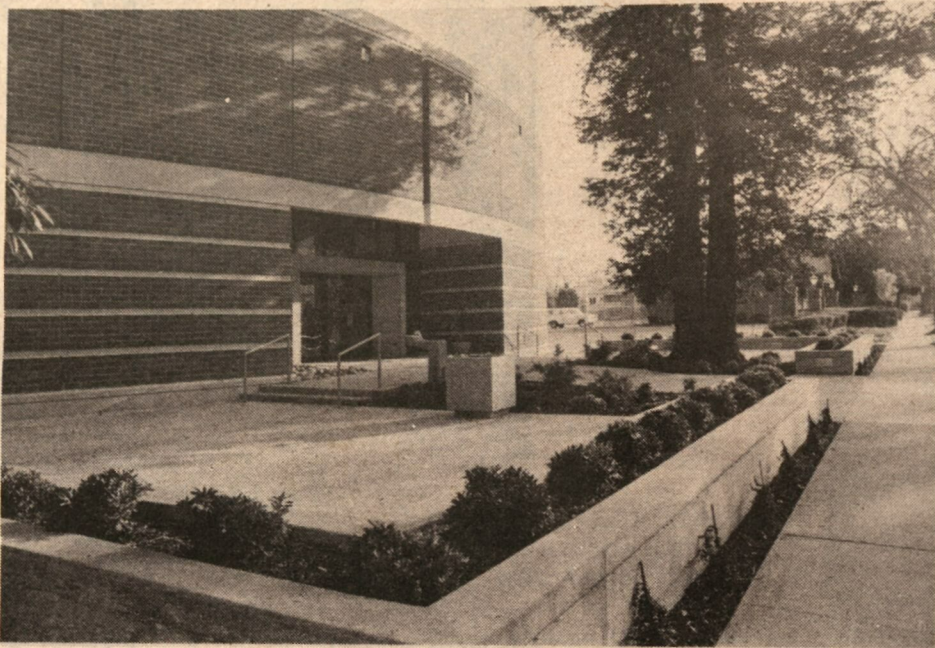
Xenos Named Education Alumnus Of The Year

George Xenos, superintendent of the Stockton Unified School District, has been selected School of Education Alumnus of the Year at UOP.

Xenos, who holds B.A. and M.A. degrees from Pacific, received the honor at the 19th Annual School of Education Honors and Recognition Day luncheon on March 27.

Xenos was named to the superintendent's position with Stockton unified last year. He has been with the district as a teacher and administrator since earning his bachelor's degree from UOP in 1957. He received his M.A. degree in 1965.

In addition to the award for Xenos, the Honors Day program included the J. William Harris Lecture and presentation of awards to the top students in the School of Education.



This Lecture/Seminar complex has just been completed at the McGeorge School of Law in Sacramento. The building contains 9,670 square feet and seating for nearly 300 students. It will be used for large classes and seminars, plus serve as the center for the Appellate Advocacy training program. The \$1 million complex is part of the University's \$30 million capital campaign.

Alumni Fellows Day Held On Campus

Several University alumni returned to the campus last month to visit with students as part of the Fifth Alumni Fellows Day.

The event is arranged by the Alumni Office to give students a chance to learn about earning a living in their career field, job opportunities that are available, and the type of skills needed to succeed in their profession.

Robert Butterbaugh, COP '54, an art teacher and sculptor, visited with art classes, Mark Fulmer, COP '69, a television program producer, talked to students in communications, and David Finnell, COP '68, a geologist, attended geology classes.

William Warner, COP '75, a technology communication specialist, talked with English classes, Stuart Blackburn, COP '76, a programmer analyst, visited math classes, and LaDean Dalke Talcott, COP '64, a school teacher, visited classes in modern languages.

Booker Guyton, COP '64, a community college official, attended religious studies classes, Nelson Rasmussen, COP '60, an administrative officer with the State of California, talked with sociology classes, and Francisco de la Cruz, engineering '78, a telephone company staff manager, and David Clack, engineering '63, a consulting civil engineer, talked with engineering classes.

Paul DiGrazia, pharmacy '65, a pharmacy coordinator, visited pharmacy classes, Dorothy Ware, education '78, a school teacher, talked with education students, and Ted Thomas, Callison '73, a film maker, made a presentation on his career field.

Bishop Tippet Dies

Bishop Donald H. Tippet, 85, a University Regent from 1948 to 1974, died recently in San Francisco. He was Bishop of the California-Nevada Conference of the United Methodist Church from 1948 to 1968, and he was very active with the University as a Regent.

Bishop Tippet, who had served as an honorary Regent since 1974, was the inspiration for the Bishop Tippet Lectures that were held at UOP in past years. Memorial contributions are being made to the UOP Chaplaincy Endowment.

U.S.-China Volleyball Match Scheduled At Spanos Center

The People's Republic of China women's volleyball team, ranked number one in the world, will oppose the U.S. Women's Olympic Team in a match at UOP on April 14.

The 8 p.m. event in the Spanos Center will be preceded by a match between the Cascade Steelers, a team comprised of the women's team at UOP, and the Northern California All-Stars, a team comprised of several former Pacific volleyball All-Americans.

The U.S. team that will oppose the Chinese is ranked second in the world on the basis of recent World Cup competition in Japan.

Tickets for the match are on sale at the UOP Athletic Ticket Office.

Band Frolic Winners Announced

Archania fraternity, Kappa Alpha Theta sorority and Casa Werner Hall were the first place winners in the 54th annual Band Frolic.

Archania captured top honors in the men's division, with second place going to Alpha Kappa Lambda and third to Omega Phi Alpha.

Kappa Alpha Theta won the women's category, with second going to Delta Gamma and third to Delta.

Casa Werner won the mixed division, with second to John Ballantyne Hall and third to Grace Covell.

Band Frolic is a campus-wide variety show held each year to raise money for the UOP band program. Singing, dancing and skits by various UOP living groups comprise the event.

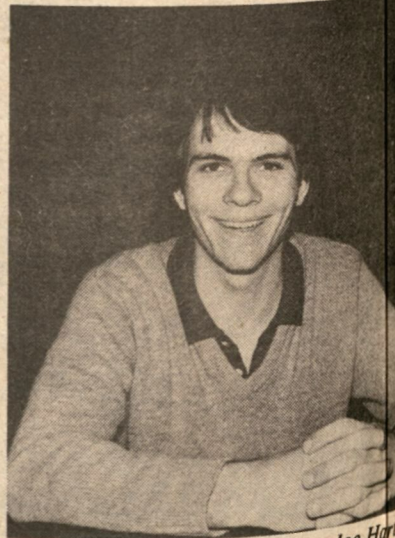
Second Term For Student Body President

Joe Hartley, a junior from Fresno, has been voted to a second term as president of the Associated Students (ASUOP).

Hartley, 21, is believed to be the first student in the 131-year history of the University to be elected to two consecutive terms as student body president. He is a public administration major at the School of Business and Public Administration.

Hartley began his second one-year term last month.

Linda Haverty, a junior from Tustin, was elected vice president. She is a business administration major at the School of Business and Public Administration.



Joe Hartley



George H. Wilson was honored at a recent Board of Regents meeting with this "Wilson Chair" to recognize his generous gift of \$1 million to establish the academic program in international business in the School of Business and Public Administration. Wilson has served as a UOP Regent for 41 years.

Regional Jessup Title Won By McGeorge

The University's McGeorge School of Law team won the Northwest regional round of the 1982 Jessup International Moot Court competition.

McGeorge students Bridget Ames and Carole Rouin defeated teams from six other schools and will now go on to the national championship in Washington, D.C. The Regional event was held recently at McGeorge.

The competition is sponsored by the American Society of International Law and the Association of Student International Law Societies. It annually attracts competitors from the top law schools in the U.S. The McGeorge team last year won the regional and national titles and then placed second in the international competition.

Water Theme For History Institute

This state's water history was the theme, and former Governor Edmund G. "Pat" Brown the featured speaker, at the 35th California History Institute at the University. The event, coordinated by the Holt-Atherton Pacific Center For Western Studies, was held April 8.

UOP Program Deals With Toddlers

"Toddlers are really a forgotten group in the community," says Dr. Sandra Anselmo, "yet they are sociable, curious and developing important intellectual skills."

Anselmo, a UOP School of Education faculty member, is working to help rectify this situation. She is teaching an early childhood class that has the students working with some 75 toddlers and their parents in the community.

The youngsters range in age from 18 to 36 months, and the students in the class spend two hours per week working with them in the home.

"We are interested in concept development, physical development, social skills and nutrition," says Anselmo, whose field is early childhood education. She taught this class once before, and the success of that project resulted in the course that is underway this semester.

Before the students go into the community to work with the toddlers they receive instruction in the social, emotional, physical, intellectual and language development of small children. Using this knowledge, the students help the youngsters in such areas as story telling, sponge painting, singing, working with play dough, and spreading peanut butter on a piece of bread and other food preparation activities.

Nominations Sought For Alumni Awards

The Pacific Alumni Association is seeking nominations for four awards that will be presented at Homecoming on Nov. 13.

The Distinguished Professional Service Award honors alumni who have achieved notable success in their professional field. The Distinguished Public Service Award honors alumni who have made exceptional contributions to society through civic leadership or other public service. The Distinguished University Service Award honors alumni whose loyalty to and efforts in behalf of Pacific are worthy of special recognition.

The Amos Alonzo Stagg Award honors alumni who earned varsity letters for athletics as students and have gone on to achieve distinction in their lives as "notable examples of the integrity, dedication, idealism and team spirit that Mr. Stagg personified and to which Pacific is dedicated."

Nominations and supportive information should be mailed to the Alumni Office, University of the Pacific, Stockton, CA 95211 by June 15, 1982. A nomination form is at the bottom of this page.

Chuck Mangione In Spanos Center Concert

Chuck Mangione performed before a sell out crowd of 3,500 people in a concert at the Spanos Center on March 6.

ASUOP sponsored the appearance by the noted jazz musician and flugelhorn player, who was accompanied by his quartet.

Success Noted In Maternity Ward Music Project

The use of music therapy in hospital labor rooms can help reduce the pain that confronts women during childbirth, according to a University research project.

Findings from a study last year at Dameron Hospital in Stockton show that the pain experienced by a group of seven women during childbirth was reduced when background music was played.

Dr. Suzanne B. Hanser, chairman of the Music Therapy Department at the UOP Conservatory of Music, developed the project with assistance from Dameron administrators, a local Lamaze prepared childbirth class and graduate students Sharon Cottrell and Audree O'Connell.

The therapists worked with the expectant mothers to coordinate their Lamaze breathing rhythms with specially selected music that varied from country and rock to classical and jazz. During labor, music was played continuously for 10 contractions and then turned off for five contractions. A pain behavior rating scale was developed to gauge the music and non-music periods. "In every case," said Cottrell, "pain responses as defined were greater in the non-music condition than in the music condition. Also, breaks in breathing or unrelaxed breathing was greater when music was turned off, verbalizations of pain were greater in the non-music condition for most of the subjects, and tension was higher in the non-music condition for five of the seven women."

According to Cottrell, these results "lend further evidence to the body of literature supporting the use of music as an aid in the childbirth process."

Please Nominate

I nominate the following person for the award indicated: ☐ Distinguished Professional Service ☐ Distinguished Public Service ☐ Distinguished University Service ☐ A.A. Stagg
Name of person nominated: _____

(if female please include maiden name)

address _____

city _____

state _____

zip _____

Business Affiliation of Nominee: _____

Class Year At UOP _____

Other colleges attended and degrees _____

Nomination statement: _____

Nominated by: _____

(name optional)

(class year)

Mail this form with supportive information to: Alumni Office, University of the Pacific, Stockton, CA 95211.

Varsity-Alumni Football Game Set

The annual spring football game between the Tiger varsity and the alumni is scheduled for 10 a.m. on Saturday, May 1, in Pacific Memorial Stadium.

The Quarterback Club arranges the game, which concludes the spring practice season for the varsity players. The varsity won the game last year, 52-0.

UOP Quarterback Club President Steve Spiro said former Tiger football players who are interested in participating in the game and/or attending a post-game barbeque, evening reception and following dinner dance should contact the Quarterback Club, P.O. Box 1473, Stockton, CA 95201 or the football coaches' office on campus.



Janine Shafer

Student Captures County Title

Janine Shafer, a UOP student from Bakersfield, is the 1982 Miss San Joaquin County. The 22-year-old voice major at the Conservatory of Music won the title over eight other semifinalists in the 14th annual pageant that was held recently in Stockton.

Shafer won a \$1,500 scholarship, a wardrobe and the right to represent the county in the Miss California competition in late June.

The first three runners-up also were UOP students, and they were, respectively, Bonita Boraas, Tamara Dorsey and Kimberly Bradstreet.

Chemistry Contest

The Fourth Annual Chemistry Achievement Test for high school students is set for April 24 at the University.

The UOP Chemistry Department and Sacramento section of the American Chemical Society jointly sponsor the event.

Purpose of the event is to give recognition to area students who have demonstrated excellence in their high school chemistry courses. While the students are taking an exam over the principles and applications of chemistry, the teachers will be involved in a program with UOP faculty members to improve chemistry instruction.

Last year there were approximately 50 students from 14 valley and Mother Lode schools participating in the event, and UOP officials anticipate at least that many this year.

THE UNIVERSITY IS PLEASED TO ANNOUNCE THAT THESE ALUMNI HAVE ACCEPTED APPOINTMENTS TO SERVE AS CLASS AGENTS

1910-1915 Mrs. Iva Belle Cooley Colliver
1916-1919 Mrs. Mildred Murphy Scott
1920 Mrs. Dorothy Lea Ketman
1921 Dr. Evelyn Berger Miller Brown
1922 Mr. Robert L. Breeden
1923 Mr. DeMarcus Brown
1924 Mr. Prentiss R. Ferguson
1925 Mrs. Dorothy Hardin Tozer
1926 Mrs. Georgia Smith Doan
1927 Mr. Percy A. Smith
1928 Mr. F. Mel Lawson
1929 Mr. Cyril R. Owen
1930 Mrs. Marjorie McGlashan Lawrence
1931 Mrs. Helen Thomas Rowland
1932 Mr. Robert W. Fenix
1933 Mrs. Martha Hansen Jones
1934 Miss Kathryn C. Kemp
1935 Mr. Roger D. Jacoby
1936 Mr. Jack R. Parsons
1937 Mr. Kenneth D. Beatie
1938 Mr. Louis W. Sandine

1939 Mrs. June Lane White
1940 Mr. Herman S. Saunders
1941 Mr. Lewis A. Ford
1942 Mr. Thomas J. Ferrari, Sr.
1943 Mr. Harold M. Walline
1944 Mrs. Pearl Steiner West
1945 Mr. Richard Johnsen, Jr.
1946 Mrs. Lita F. dalPorto-Darwin
1947 Mr. Harry W. Hedburg, Jr.
1948 Mrs. Lois Kanagawa Yee
1949 Mr. David R. Schrader
1950 Mr. John H. Rohde
1951 Mr. Howard W. Pearce
1952 Mr. Donald J. Smith
1953 Mr. Robert I. Steres
1954 Mr. James F. Baun
1955 Mr. Don M. Johnston
1956 Mrs. Shirley Johnston Nunn
1957 Mr. Maynard A. Bostwick
1958 Mr. Christopher A. Greene
1959 Mr. Richard L. Bass

1960 Dr. Ronald O. Loveridge
1961 Mr. William J. Deubner
1962 Mr. John Beyer
1963 Mr. H. Larry Leasure
1964 Mr. Howard L. Campbell
1965 Mr. Clay E. Clement
1966 Mr. Barry D. Harper
1967 Mrs. Nancy Reamy Shelly
1968 Mr. Jonathan Brown
1969 Mr. Mel De La Motte
1970 Mrs. Peggy Limbert Rosson
1971 Mrs. Nancy Schrader Garrett
1972 Mr. David R. Bennett
1973 Mr. Thomas R. White
1974 Mr. Kevin T. Bennett
1975 Mr. Mark K. Rogo
1976 Mr. Charles W. Bates
1977 Mr. Mark F. Friend
1978 Mr. Randy E. Breschini
1979 Mr. Steve Harden
1980 Ens. Baynes Bank
1981 Mr. Ronald G. Pool

After many years without a Class Agent structure, the University is proud to present these loyal leaders of the alumni. They shall be assisting in the development and expansion of the Pacific Fund. They may also become involved in class reunion activities and general class member information programs.

**The
PACIFIC
FUND**
Now and for Tomorrow

TIGER TRACKS

0's

Mary Murray Schwarz, Conservatory '21, resides in Los Gatos.

Evelyn Hart Case, COP '23, is a red physician residing in atoga.

Robert Couchman, COP '23, is red and lives in San Jose with wife **Edna Hardaway Couchman, COP '22**.

Marian Van Gilder Schroven, P '29, of Oceanside has published an award for excellence communicative disorders at UOP memory of her mother, **Florence Van Gilder, COP '26**. The firstipient of the cash prize was **rie K. Bergh, COP '81**, of Torrice. Mrs. Van Gilder lived in Stockton and was active in civic affairs for more than 30 years. Her interests included teaching speech and working with the hearing impaired.

0's

Betty Moore Heath, COP '30, is married and living in Placerville.

Mary Teal Zeh, COP '30, is married and living in Sacramento.

L. Eugene Root, COP '32, and **Evelyn Mount Root, COP '35**, co-asted a luncheon at the Santa Clara Marriott Hotel on behalf of COP's School of Engineering. They both retired.

Dorothy Norton Noland, COP '34, is president of the Los Rios College District Federation of Teachers. She is also a music instructor at American River College and resides in Sacramento.

Glenn A. White, COP '35, is married and living in Marietta, Ohio with his wife Kathleen.

J. Franklin "Pete" Gillespie, Conservatory '37, is retired and living in Sacramento with his wife.

Roland D. Campbell, COP '38, is president and manager of California Roofing in San Jose. He resides in Los Gatos with his wife **Marnya Campbell, COP '41**, a housewife.

40's

Walter E. Fellers, COP '40, is president and chief designer with the aircraft division of Northrop Corporation. He is also a fellow of the American Institute of Aeronautics and Astronautics.

Ardys Sibole Heilman, COP '43, is a homemaker in Sacramento. She lives there with her husband Guy, a funeral director and manager of Harry A. Nauman & Son. They have one daughter.

Marian Galt Pickens, COP '44, is a teacher with the San Juan Unified School District. She resides in Carmichael with her husband William, a management consultant with L.A.J. Miller and Associates. Marian is also the coach of the Academic Decathlon Team at Mira Loma High School.

Kathleen Secara Taix, COP '44, is a supervisor with the San Jose Unified School District. She resides in San Jose with her husband Sheldon, a retired school teacher.

James B. O'Grady, COP '47, is a Santa Clara County judge. He resides in Palo Alto with his wife Rosalia, a homemaker. They have five children.

G. Arthur Parrott, COP '47, is an educator with the Kern County Superintendent of Schools Office in Bakersfield. He resides in Wasco with his wife Norma, a school secretary.

Alex G. Spanos, COP '48, hosted a gala dinner dance at San Francisco's Hotel St. Francis recently. Bob Hope starred at the benefit, whose proceeds went to the Children's Hospital, San Francisco; Eisenhower Medical Center, Rancho Mirage; and St. Joseph's and Dameron Hospitals in Stockton. This was the fifth gala that Alex and his wife Faye have sponsored. Alex, a builder-developer, resides in Stockton.

Stephen H. Goodman, COP '49, is treasurer of the Water Pollution Control Federation. He is also manager/engineer of a Santa Clara County Sanitation District. Stephen resides in Campbell with his wife **Jean Wright Goodman, COP '48**, a property manager.

Dan Y. Rosenberg, COP '49, is chief of Nursery and Seed Services with the State of California. He resides in Sacramento with his wife Marilyn, a librarian and office technician with the State of California. Their son Morton will graduate from COP this May.

50's

Robert L. Satterlee, Education '50, is assistant transportation engineer with the State of California's Department of Transportation. He resides in San Diego with his wife Mary, a housewife. Robert invented the automatic air bag machine for CalTrans in 1976 and received the Inventor of the Year award from the San Diego County Engineering Society in 1977.

Elizabeth "Chick" Chidester Duran, COP '52, prepared a documentary video-cassette on "The Love Canal Homeowners Association in Action: A National Precedent." The documentary tells about the leadership of women in the toxic waste crisis. Elizabeth is a professor of history at Niagara University in New York.

Nancy Bartlett Greene, COP '52, is an adult probation officer in Redwood City. She has authored several publications in the field of corrections and resides in Saratoga.

Lois Howard Chestnutt, COP '53, teaches English at the junior high school level for the Cupertino school district. She resides in Sunnyvale with her husband Scott, a supervisor of tax compliance in the Corporation Tax Department of Standard Oil of California. They have three children.

Donna Horn Petersen, COP '54, teaches for the Los Gatos Union School District. Donna resides in Los Gatos and has two children.

Gloria "Lovea" Jenks Wilcox, COP '55, directs the Inner Growth Seminar. She resides in Palo Alto and has two sons.

Eva Tarr Kerner, Conservatory '56, teaches music and mathematics at the junior high level for the Sacramento city unified schools. She is currently on a one-year leave of absence and lives in Fair Oaks with her husband Robert. They have two daughters.

Mary Krebs Moffatt, COP '56, has retired from teaching and is a volunteer with Community Action in Cupertino. She resides there with her husband John, an engineer with Memorex. They have two sons.

H. Clayton Smith, COP '56, is director of special projects for the Santa Clara Unified School District. He resides in San Jose with his wife **Tommy Kay Hall Smith, Conservatory '57**, a second grade teacher with the Sunnyvale School District.

Stanford B. Clemons, COP '57, is director of student activities with Sacramento city schools. He has been named Outstanding Teacher of the Year in Sacramento County, and a runner-up for California Teacher of the Year. Stanford resides in Sacramento.

Glenn L. Shellcross, COP '57, is the administrator of Counseling Services at the California Correctional Institution in Tehachapi. He resides in Bakersfield with his wife Joann, a benefits administrator with Continental Telephone.

Nancy Collis Stoney, COP '57, lives in San Jose. She has three sons.

Charles O. Krahenbuhl, COP '58, teaches elementary school for Gilroy unified schools. He is also a marriage-family-child counselor and resides in Gilroy with his wife **Janice Laughlin Krahenbuhl, COP '58**, a math resource specialist with Gilroy unified schools. They have two sons.

Wilma Morrow Ross, COP '59, is a teacher with the Fairfax School District. She resides in Bakersfield with her husband Carl, a teacher with Kern High School District, and a farmer. They have one son.

Winifred Knutson Wilson, Education '59, lives in San Jose with her husband Donald, a staff engineer with FMC Corporation. They have three children.

60's

Bruce B. Kennedy, COP '60, is a realtor and president of Summit Properties/Bruce B. Kennedy, Inc., in Los Gatos. He resides there with his wife Diane, a homemaker and secretary/treasurer of the business. They have two children.

Marlee Stark King, Education '60, is the assistant clinic coordinator for the Crippled Children's Society of Santa Clara. She has two sons and resides in Cupertino.

Edward W. Keller Jr., COP '63, is a realtor with Somerset Properties in Somerset. He resides in El Dorado Hills with his wife Kristen, also a realtor.

Anne W. Passel, Graduate '64, is an English professor at California State University, Bakersfield. She resides in Bakersfield with her husband Howard, who is retired from the University's Art Department. Anne has a new book on the market entitled *Sojourn in Paris and Other Stories*.

Doris Walker Britschgi, Education '65, is a teacher with the Santa Clara Unified School District. She resides in San Jose with her husband Russell, a maintenance supervisor.

Elizabeth H. Landergren, COP '65, is a flight attendant with United Airlines. She resides in Los Altos with her husband Philip Chambers, an aerospace engineer with Lockheed.

Nancy Stutzman Phillips, COP '65, teaches nutrition, microwave cooking and interior design at Bakersfield College. She resides in Bakersfield with her husband Mack, a financial consultant and planner with Phillips and Associates. They have one son.

John W. Broad, COP '68, is the minister of United Methodist Church in Wasco. He resides there with his wife **Laurel Julien Broad, COP '68**, a homemaker. They have two children.

Garth L. Chambers, COP '68, is president of Shapell Industries of San Diego, Inc., a publicly owned development company. He resides in La Jolla with his wife Nora and their baby boy.

Marc Reisman, COP '68, is working toward a master's degree in physical therapy at Boston University, where he hopes to do research in performance. He has been running his own clinic in San Francisco and hopes to return to the Bay Area to a private practice in sports medicine. Marc resides in Brookline, Massachusetts.

Happer P. Campbell, COP '69, is vice president of California Roofing Company in San Jose. He resides in Saratoga with his wife Vicki, a student at West Valley College and office manager of California Roofing.

Richard F. "Jake" Jacobsen, Graduate '69, is a teacher and resides in Fair Oaks with his wife Patricia, a secretary/bookkeeper with Kassis Brothers. They have two daughters, Kris and Karen. Karen is a junior in the School of Business and Public Administration and a member of UOP's volleyball team.

Patricia Hale Abudinen Marcotte, COP '69, is an instructor of English as a Second Language at San Jose City College and the San Jose Metropolitan Adult Education Program. She resides in San Jose with her husband Joseph, purchasing manager for California Computer Systems. Patricia is the author of three English grammar books published by Prentice-Hall, Inc., in 1979.

Muriel Ponder Nourse, Education '69, is owner/manager of The Book Mark, a bookstore in Milpitas. She resides in San Jose with her husband John, an electrical and control system engineer with Kennedy/Jenks.

70's

Marlene M. Fong, COP '70, is a counselor at John F. Kennedy High School in Sacramento. She is also a member of the Board of Directors for both the Third World Counselor's Association and the Sacramento City Teachers' Association. Marlene resides in Carmichael.

Allan L. Kraemer, COP '70, is vice president and manager of Crocker Bank in San Francisco. He resides in Alameda.

James D. Kuykendall, Engineering '71, is a supervising water resource control engineer with the State of California in South Lake Tahoe. He resides there with his wife Karen, a teller with Crocker Bank, and their three children.



Percy Smith, COP '27, was among the alumni and students who recently helped plant 100 trees throughout the campus at Arbor Day. The Student Alumni Council arranged the event, which renews an old tradition at Pacific.

Steve McLennan, COP '71, is the head professional golfer at Pebble Beach Golf Links.

Douglas T. Schnabel, COP '71, is a sales representative with McLean Trucking Company in Sacramento. He resides in Elk Grove with his wife Glenna and their two children.

Jack H. Coward, COP '72, is an attorney in Cupertino. He resides in San Jose with his wife Denise, a housewife.

Gail J. Berberian, COP '72, teaches in the Grant Union High School District in Sacramento.

Ernest Lehr, Education '72, was recently appointed chief of the field management services bureau with the California Department of Education.

Jon R. Perroton, COP '72, is a regional manager with Public Storage in Burlingame. He resides in Palo Alto with his wife Kathryn and their two daughters.

Steven W. Skalisky, Pharmacy '72, is a pharmacist at Shafter Drug Store. He lives in Shafter with his wife Becky, a housewife, and their son.

David P. Burton, Raymond '73, is an associate programmer analyst with IBM in San Jose.

Charles K. "Chip" Gordet Jr., Pharmacy '73, is a pharmacist at Payless Drugs in South Lake Tahoe. He lives at Marla Bay, Nevada with his wife Linda, a blackjack dealer at Harvey's at South Lake Tahoe.

Rosalind J. Angell, COP '73, is manager of publications with FMC Corporation in Chicago, Illinois.

L. Keating Johnson, Conservatory, '73, is the director of bands and assistant professor of music at California State University, San Bernardino. He resides there with his wife Janet Wilta Johnson, COP '72, a mortgage advisor with Western Pacific Financial. Keating has published two articles on the works of Richard Wagner in the Journal of Band Research.

Lynne Scott Connors, Education '73, is a homemaker in Santa Clara. She resides there with her husband John and their son.

Denise Bolden Coley, COP '74, is a systems programmer in Cupertino. She lives in Palo Alto with her husband Robert and their two children.

Eleanor F. Todd, Education '73, is a consultant with the Sacramento Unified School District regarding deaf infants. She is also a member of the Board of Directors of the Soroptimist Club in Lodi and a member of the Lodi School Board. Eleanor screens infants at St. Joseph's, Dameron and Lodi Memorial Hospitals for hearing disorders.

Leslie Hickcox, COP '74, is a physical education instructor at the State University of New York at Stony Brook in Long Island, New York.

Michael N. Rose, COP '74, is a dentist in Cupertino. He lives there with his wife Margi, a dental assistant and receptionist with her husband. They have two children.

Christopher A. Wolter, Dentistry '74, has a private dental practice in Walnut Creek. He lives there with his wife Charlotte Anne and their daughter. He is treasurer of the Contra Costa Dental Society.

James M. Handley, COP '75, is a fisheries biologist with PG&E in San Ramon. He lives in Lafayette with his wife Diane Merri Handley, Education '75, a school counselor with the Pleasanton Joint School District.

Raymond P. Medina, Callisto '75, is an assistant clinic administrator for Kaiser Permanente Medical Care Program in Los Angeles. He lives in Norwalk.

Clifton R. Oakes, Education '75, is an elementary school principal at Palisades School in Orangevale. He lives in Placerville with his wife Velma.

Judith E. Wolen, COP '75, is the acting executive director of Planned Parenthood in Sacramento. She lives there with her daughter.

Gerard P. Babb, COP '76, is working toward a master's degree in fine arts at the University of California, Irvine. He teaches acting and works part-time as a scenic technician in the production studio at UCI.

Ivan J. Dickerson, Pharmacy '76, is director of pharmaceutical services at West Side Hospital in Taft. He resides there with his wife Donetta, director of payroll in accounts payable at West Side Hospital.

Mark G. Henderson, Callisto '76, practices law with the firm of Hiroshima, Jacobs, Webb and Rot in Sacramento.

Hazel Hall Vazquez, COP '76, is a deputy probation officer and director of substance abuse in Stockton. She resides there with her husband John, who is employed by Sierra Lumber.

Norman Anderson, Pharmacy '77, is a pharmacist at the Medicine Chest Pharmacy in Hayward. He lives there with his wife Kathleen Kennedy Anderson, Pharmacy '78, a pharmacist at Bill's Drugs in Danville.

Shari Rogo Carruthers, COP '77, is working toward a master's degree in business administration at Pepperdine University in Malibu. She also works with her brother Mark Rogo, COP '75, in their family machinery business in Los Angeles. Shari's husband John is studying engineering at California State University, Los Angeles. They were married last September.

Ronald S. Goerss, COP '77, is an assistant manager of locomotive power with the Southern Pacific Transportation Company in San Francisco. He is also working toward a master's degree in business administration management at Golden Gate University in San Francisco. Ron resides in Pleasant Hill.

IN MEMORIAM

Rev. Wilmer E. Briggs, COP '28
George Atkins, COP '30
Paul J. "Jack" Minasian, COP '30
John P. Fentzling, COP '32
Bradford Crittenden, COP '34
Kent W. Chapman, COP '55

Melanie E. Hutter, COP '80, is a research analyst for the U.S. Department of Defense in Washington, D.C. She resides in Laurel, Maryland.

Kent C. Jones, Engineering '80, is an associate project engineer with Underwriters Laboratories in Santa Clara, where he lives.

Jon G. LeGrant, Pharmacy '80, is an assistant director in charge of staff development and clinical services at Memorial Hospital, a 600-bed hospital in Springfield, Illinois.

David A. Mills Jr., COP '80, is a computer graphics systems analyst for Digital Engineering, Inc., in Sacramento.

John A. Rosati, SBPA '80, and his wife Anita Cajias-Rosati, SBPA '79, are both employed by Bechtel Power Corporation. John is in field procurement and Anita in the cost and scheduling department. They are stationed at the Susquehanna Nuclear Power project in Pennsylvania. They are living in Berwick, Pennsylvania.

Diane Adams, SBPA '81, is a collection accountant with Kemper Insurance Company in New York.

Robert Cisneros, SBPA '81, is general manager of the El Faro Restaurant in Sunnyvale.

George N. Dozet, Conservatory '81, is a secondary teacher and director of music with Placer Unified School District in Colfax. He resides in Auburn.

Stacey Mount Esser, COP '81, is a technical editor with Lockheed Missiles and Space Company in Sunnyvale. She resides in Mountain View with her husband Brooks Esser, COP '80, a financial analyst with Lockheed.

Steven L. Green, Pharmacy '81, is a pharmacist with Fry's Food Stores in San Jose. He resides in Los Gatos.

Kristi K. Kemp, Covell '81, teaches at Bethune Junior High in the Los Angeles Unified School District. She resides in Inglewood.

Lynne D. Overholtzer, SBPA '81, is a loan purchaser with State Savings and Loan in Stockton.

Michael B. Parks, Covell '81, is a sales representative with United Airlines in Los Angeles. He resides in Marina Del Rey.

Roger Prunhuber, COP '81, resides in Boca Raton, Florida where he is working on a master's degree in business administration.

Patricia Hamilton Roman, Education '81, teaches special education in Kings County. She resides in Hanford with her husband Alan, a case manager with the Central Valley Regional Center.

Brian P. Russom, COP '81, resides in Bakersfield.

Elizabeth P. Wolverton, COP '81, is an assistant manager with Casual Corner. She resides in Los Altos.

Melinda McMullen, COP '79, is an account executive with Burson-Marsteller Public Relations in New York City. Melinda resides in Manhattan.

Christy Emlaw Moran, COP '79, resides in Ashland, Oregon with her husband Christopher.

Kathi McGowan Sakamoto, Education '79, is a teacher. She lives in Bakersfield with her husband Kirk F. Sakamoto, Pharmacy '80, a staff pharmacist with the Kern Medical Center. They have one daughter.

Maria Weldon Schumacher, Conservatory '79, lives in Camarillo with her husband John. They are both teaching parents with the Greenline Teaching Homes Project. This project allows them to work with five deaf, developmentally disabled, young adults in a community home in Camarillo.

Ronald K. Sperring, COP '79, is a programmer analyst with TRW, Inc., in Sunnyvale. He lives in Cupertino.

80's

Victoria Thomas Branson, Education '80, teaches first grade at the White School in the River Delta Unified School District. She resides in Rio Vista with her husband Joseph, a lineman with PG&E. They have two children.

Jay S. Cherrie, COP '80, is a senior research analyst in Interactive Corporate Services with Bank of America in San Francisco.

Jason H. Donchin, COP '80, is a graduate student/assistant at Northern Arizona University in the Geology Department. He resides in Flagstaff, Arizona.

Samuel W. Grossman, Engineering '80, is an engineer/estimator with Teichert Construction in Stockton. His wife Nancy Paracka-Grossman, Engineering '82, is an energy utilization representative with PG&E in Stockton, where they are living.

Christopher T. Hodgkins, COP '80, is working toward a master's degree in English at the University of Chicago.

Karen Murlin Hunter, Pharmacy '80, is a pharmacist with Thrifty Drug in Sacramento. She lives in North Highlands with her husband John, a computer programmer with Granite Financial Corporation.

David W. Ehwig, COP '78, is a student at Santa Clara School of Law. He expects to earn his J.D. in May of this year. His wife Christine Coleman Ehwig, COP '79, owns and operates Unique Designs, an interior design firm in San Jose. They have two children and live in San Jose.

Richard W. French, COP '78, is a dentist in Sacramento, where he resides.

Stephen E. Foehr, COP '78, a district scout executive with Boy Scouts of America, lives in Sacramento with his wife Barbara, a homemaker.

Gregory L. Keck, Engineering '78, designs highways and drainage systems for Cal Trans in San Bernardino. He lives there with his wife Sharon and their three children.

Alison P. Mellor, COP '78, is studying law at Western State University College of Law in Anaheim.

Steve C. Snider, COP '78, is a law clerk with Litts, Mullen, Perovich, Sullivan and Newton in Lodi. While waiting for his bar exam results he is living in Sacramento.

Karen Porcier Stoddard, Covell '78, is a substitute teacher for the Castro Valley Unified School District. She lives in Castro Valley with her husband Jim, a systems analyst with a computer firm in Burlingame.

Mary Jane Weigel, COP '78, is a buyer of children's wear for Weinstock's in Sacramento. She lives in Carmichael.

Alan Acosta, Raymond-Callison '79, is an assistant director for Eastlake Company, a Japanese video company in Tokyo, Japan.

Mark S. Axup, COP '79, is an office administrator with the district attorney's office in Sacramento. He is also in his third year at Lincoln Law School. Mark lives in Sacramento with his wife Kelly, a public relations coordinator for Tire Systems, Inc.

Earl Brown Jr., COP '79, coordinated the 1982 United Cerebral Palsy telethon "Weekend with the Stars" last January.

Jim D. Bruce, SBPA '79, is general manager and vice president of Discovery Datsun, Oldsmobile and GMC in Roseburg, Oregon. He lives there with his wife Gaily. They have one daughter.

Barbara Witter Harden, COP '79, is in sales and marketing support with IBM in Sacramento. She lives in Stockton with her husband Stephen R. Harden, COP '79, a sales representative for the Babka liquor company in Stockton.

Robert W. Koppel, COP '79, produces "Channel 3 Reports", the 6:30 a.m. edition of KCRA-TV News in Sacramento.

Kenneth V. Lee, COP '79, practices dentistry in Falls Church, Virginia.

Julie Jacobs Lundquist, COP '78, is a student at San Jose State University, where she is working toward a master's degree in doctoral education. She resides in Los Gatos with her husband Keith, estimator with E.A. Hathaway Construction and Development.

Chris Maytnier, COP '77, is a sales assistant on the Chicago Options Exchange through Knight and Associates. He lives in Chicago, Illinois.

Susan L. McDonald, COP '77, is a editorial assistant in public affairs at Sharpe Army Depot in Newport. She resides in Manteca.

Kathleen A. Olsen, COP '77, is a school teacher and works with developmentally disabled children. She works at the Children's House in Lake Tahoe.

Holly A. Ong, Pharmacy '77, is a consultant pharmacist with Arrow Pharmacy in San Diego. She is also a candidate for a master's degree in business administration at San Diego State University. Holly resides in San Diego.

John P. Peterson, Pharmacy '78, is a staff pharmacist with Thomas Jefferson University Hospital in Philadelphia, Pennsylvania. He resides there with his wife Kelly Jeanne Acton-Peterson, COP '77, a resident in internal medicine at the Albert Einstein Medical Center in Philadelphia.

Bill S. Realon, COP '77, is a loan officer and assistant secretary with Chemical Bank in New York City. He resides in Bronxville, New York. Margaret Schulman, COP '77, is the director of the Audio School for Modern Languages in Menlo Park, where she resides.

Dennis A. Simmons, Pharmacy '78, is a pharmacist/manager of Care Pharmacy in Sacramento. He resides in Citrus Heights with his wife Dalice, a Princess consultant. They have two children.

Kathy Hansen Smith, Conservatory '77, is an adjunct faculty member in the voice department of Gonzaga University. She resides in Spokane, Washington with her husband Tim Smith, Conservatory director of bands and instructor of music at Gonzaga University. Laura Urseny Swafford, COP '78, is the business page editor of Chico Enterprise-Record newspaper. She resides in Chico with her husband James, director of community relations with the Butte County Association for Handicapped Citizens. They have two children.

Maria T. Bertolucci, COP '78, is a rehabilitation therapist in recreation at the Porterville State Hospital. She is also chairman of the Rehabilitation Professional Organization at the hospital. She resides in Bakersfield.

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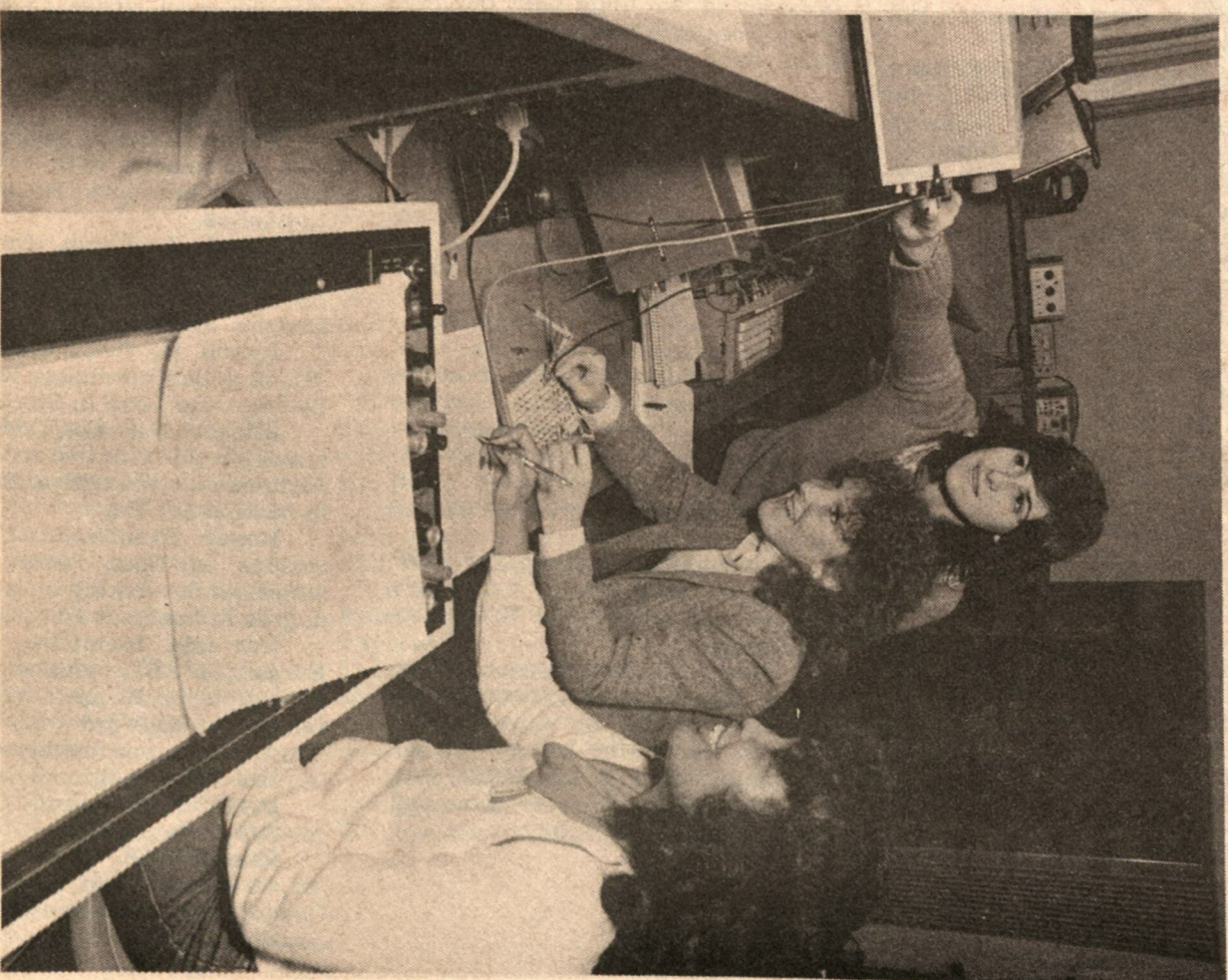
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THE UNIVERSITY OF THE PACIFIC

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A common sight in engineering classes at the University in recent years has been an increasing number of women students. Several of the graduates have made significant contributions to their profession.