

Stuck in the
blocks:
According to
Canadian
testimony, Ben
Johnson used
steroids for
seven years
before the Seoul
Olympics.

THE CALIFORNIA TECH

Editor1: Hey, vote for Dave.
Editor2: No, vote for Alecia.
Editor3: Who cares? X out Bappa.

Volume XC, Number 27

Pasadena, California

May 19, 1989

International Day, Dude!

by Andrew Hsu

Imagine walking into a place where you could sample foods from all parts of the world for free while listening to music that's even too ambitious for KROO to play. If thoughts of EPCOT Center or even the international food pavilion at the Pasadena Plaza come to mind, guess again. Welcome to Caltech's second annual International Day, sponsored by every possible money giving organization on campus and brought to you by Bassem Mora and the various cultural organizations found on and off campus.

International Day was started in light of the vast numbers of different cultures that are present in the Caltech student body. It represents a chance for everybody to learn about everyone else's cultural background in a fun and non-political manner.

The festivities begin at 4:30PM today just outside of the Winnett Student Center. Food will be served beginning at 5:30. As always, the food and the entertainment will be free to all members of the Caltech/JPL community. Since there will be a large number of events present at International Day, the rest of this article will serve as a guide so that you can make the most out of the festivities.

Beginning at 5:30, International

Day will feature food (and lots of it) native to various countries, along with displays of arts and crafts from participating countries. Over 11 clubs on campus will be opening booths during International Day so the food will definitely be interesting and varied.

Some of the highlights according to Bassem will be the Korean barbeque at the Korean students club booth, the Canadian bacon and cheese barbeque sponsored by the Canadian students, the falafels at the Israeli students booth, and the variety of Indian delicacies provided by OASIS, the Indian students group, and Diwana, a local Indian restaurant.

Other groups such as the Caltech C, the Vietnamese student association, and the Pakistani student group will also provide ethnic foods at their booths. In addition, Burger Continental will once again be providing a wide variety of Middle Eastern fare at International Day. It should be noted that regular board dinner will not be served today so be sure to visit all the different booths and sample the wide variety of food available.

All participating clubs will also display crafts and posters of their native country at their respective booths.

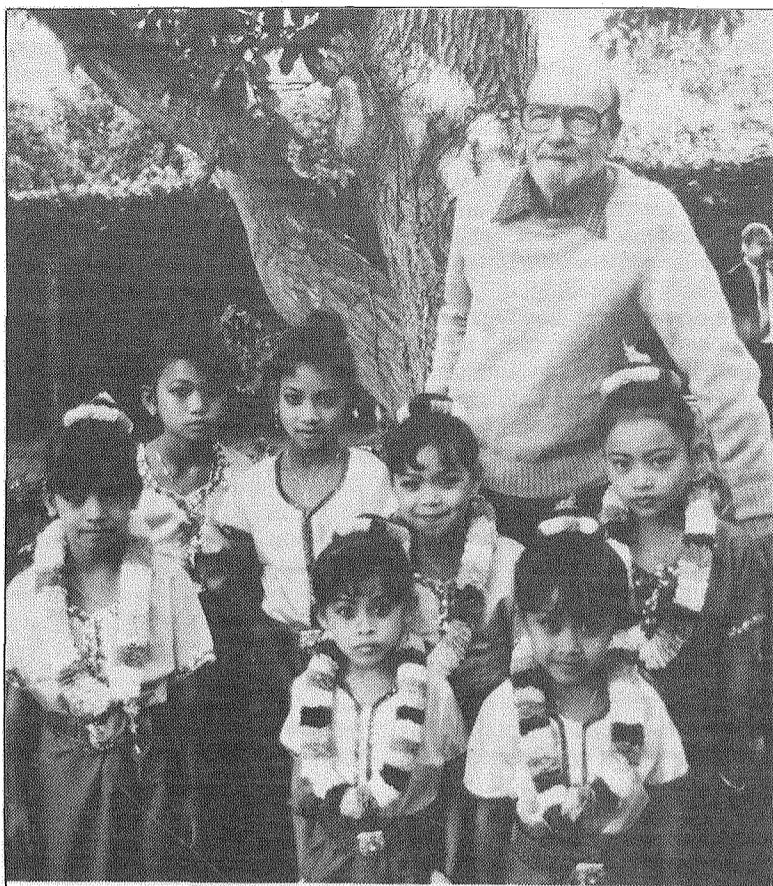
Adding to the student club booths this year will be two booths

sponsored from off campus organizations. One will be sponsored by U.N. Association gift shop on Green Street. While this booth will not be serving food, they will be displaying and selling craftwork from all over the world. The other booth will highlight the three sister cities of Pasadena: Ludwigshafen an Rhein in West Germany, Jarvenpaa in Finland, and Mishima in Japan. People not aware of Pasadena's sister cities are strongly encouraged to stop by this booth.

The food and displays only make up half of this year's International Day however. The other exciting feature this year is the live entertainment. Beginning at 4:30 a Cambodian dance and music group will perform four traditional Cambodian dances. The dancers are young girls who range in age from 7 to 14. The backing musicians will be playing traditional Cambodian instruments during their set. Prof. Amy Catlin will be moderating the Cambodian artists' performance.

At 5:45, a Middle Eastern troupe will perform native music and dances. Finally, at 7:00, a Brazilian Samba group will perform. According to Bassem, all three groups encourage a lot of audience participation so be ready to dance.

In between these three longer performances, a group of Scottish



No, these are not the incoming pre-frosh and their sugar daddy, but the youngest dancers from the Cambodian Dance and Music Group with Pete Seeger, legendary folk singer.

dancers will perform from 5:30 to 5:45 and the Korean students association will hold a Tae Kwon Do demonstration from 6:45 to 7:00.

Judging from the number of organizations participating and Bassem's enthusiasm, this year's

International Day promises to be bigger and better than last year's inaugural event. All members of the Caltech/JPL community are encouraged to attend this gala event located just outside of the Winnett Student Center.

Teaching Important

"I find many professors here believing teaching is very important, and they're doing a good job."
-President Thomas Everhart

"The Institute takes the undergraduates very seriously; it's not just lip service. But it doesn't hurt, every now and then, to reaffirm its commitment, lest we forget why we're here and why we are professors, because we can get caught up in the daily pressures."
-Dr. Sunney Chan

by Kin Ha and Mark Lyttle

These are some of the comments we heard in our interviews with the Administration and the Faculty on the subject of undergraduate teaching at Caltech. The nature of these interviews centered on the following questions: 1) Are many Caltech professors enthusiastic about their jobs, or do they generally view it as drudgery, an interruption to their research? 2) What role does teaching play in the granting of promotions and tenure to professors? 3) Do feedback systems like TQFR, CLUE, and departmental evaluations work? Does the Ombudsman system work? With the realization of the intricacy of the issue, this article is not intended to provide thorough answers to these questions, but rather to shed some light on the concerns of the Administration and Faculty and to bring more attention to the quality of undergraduate teaching.

The Administration and Faculty were extremely careful in their responses. During the interviews, some made comments that they genuinely, but asked us not to quote them for fear of antagonizing others at Caltech. Some went as far as saying things that were distinctly in discord with what they were saying before we turned on the tape recorder. Being responsible journalists, we shall comply with their wishes.

Most of the members of the Administration we interviewed maintain that the teaching quality at the undergraduate level is excellent. They declared that one of the sources of Caltech's prestige is the superior Caltech undergraduate education. Caltech is well known for its Physics 1 and Physics 2 courses. President Everhart said, "I find many professors here believing teaching is very important, and they're doing a very good job." Dr. David Goodstein, Vice Provost and a Professor of Physics and Applied Physics, was in agreement, stating, "The teachers at Caltech are probably better on the average than it is for most places, even most teaching colleges." Dr. Sunney Chan, the Chairman of the Faculty, agreed to some extent, "Caltech has always had a strong commitment toward quality undergraduate education in a research environment. The Institute takes the undergraduates very seriously; it's not just lip service. But it doesn't hurt, every now and then, to reaffirm its commitment, lest we forget why we're here and why we are professors, because we can get caught up in the daily pressures."

But what motivation is there to take teaching seriously? By doing well in his research, a professor could get world-wide fame and wealth, whereas for being a good teacher, he would only gain recognition in the Caltech community. According to this reasoning, one would then expect professors to rank teaching low in their priorities. However, Dr. William Bridges, a former Executive Officer for the Electrical Engineering Department, replied, "Strangely enough, things do not work that way." President Everhart said, "Most motivations are self built-in. ... If all the other faculty members notice that a professor is not a good teacher, he will be considered sub-

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CRIME AND INCIDENT BEAT

5-10 Briefcase containing HP calculator and wallet with ID and credit cards stolen from Downs Lab Room 103.

5-13 Student walking through Chester Lot was victim of armed robbery attempt by two black males. (See article.)

5-13 Beckman. Staff person didn't turn off alarm before she opened the rear entrance to the room.

5-13 Room 2C, Parsons Gates. Staff person accidentally set off alarm upon reentering office in which she'd been working. She didn't know the alarm code.

5-14 317 South Holliston. Student saw suspect looking in a window at house. Student approached suspect and said, "What are you doing?" Suspect grabbed student by arm and demanded money. When student refused, suspect walked off.

5-17 Parsons Gates, Room 202. Alarm had not been shut off and custodian entered room.

5-18 Several people reported that three people were running through the houses completely naked at approximately 2AM.

Campus Robbery

by Chris Campo

On the night of May 13th a student was walking home through the South Chester Parking Lot when he was accosted by two black males. One of the men was roughly 6 foot 8, 240 pounds. The other suspect was near 5 foot 8 in height, and of medium build.

Suspect 1 said, "Give me your money and wallet." The student replied by stating that he had neither money nor a wallet on his person. At this point, the suspect pointed a handgun at the student and stated, "This is a real gun." The suspect then struck the victim on the chest with the gun, a blue steel semi-automatic pistol. The victim then ran, and the two suspects walked away.

Harold Ginder, Director of Security, said that patrols during the time of night when the robbery attempt occurred have been increased. Ginder stressed that armed robbery is not a common occurrence in the vicinity of the Caltech campus, but that members of the Caltech community should be aware that there are some dangers against which they should take precautions.

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Brilliant Pebbles

"The critics who say 'Star Wars' won't work and is a waste of money are wrong! It will work (given enough time and money) and in so doing it will make us less secure."
-Robert Bowman

by Craig Volden

Dr. Robert Bowman, director of the Institute for Space and Security Studies and long-time authority on Star Wars, enlightened Caltech students and faculty of the dangers of Star Wars. His talk, sponsored by the Caltech Y and held in Baxter Lecture Hall on May 10, was one of the clearest, most straight-forward lectures on this "defensive" initiative that could be given.

Bowman first set forth the Nitze Criteria with which to the effectiveness of a Star Wars type system. He then discussed the types of systems under consideration, and addressed how well they would meet the "effectiveness criteria." Finally, he looked at the overall picture of what an effective Star Wars system would mean.

The Nitze Criteria is three-fold. The system must be militarily effective, able to accomplish the goal for which it is designed. It must be "cost effective at the margin." That is, it must cost the United States less to shoot down Soviet missiles than it costs the Soviet Union to make them. And it must have the characteristic of "survivability," so it is not shut down minutes before a nuclear war.

The current, short-term Star Wars program is called Brilliant Pebbles. Brilliant Pebbles are small orbitals of about three feet in diameter. They are to contain highly efficient fuel and have "the computer power of a Cray in a space the size of a deck of cards."

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LETTERS

Don't Speed

To The Editors:

Sometime early Wednesday afternoon, a speeding vehicle ran down a cat on Holliston Ave. The person or persons in the car did not stop to find out whose cat it was or even to see if it was still alive. If the murderer (that is what the driver is) had considered the consequences of speeding, they would have driven more slowly. For not only did the cat die, but it left behind a four week old kitten.

This letter is not only aimed at the driver, who may or may not be a Techer, but at all of us who speed. "I'm sure I can slow down in time," may be true on a freeway, but in a residential area, the risk is too high to justify the saving of a few minutes. What if, instead of a cat, it had been a small child? The latter may have more weight in the eyes of the law, but that doesn't reduce the responsibility. After all, it is still two tons of metal versus a few pounds of unprotected flesh. As, unfortunately, one of our fellow students, Evan Bak, found out last summer.

-The 328 Crew
1-57

Severe MOSH

To the Editor,

It seems that the principle theme of letters to the editor over the past couple months has been criticism, so I thought I would throw in my share.

The of my chief praises of life at Caltech has been the relaxed and supportive relationship we have with faculty and administration. Some of the ways I see them help are: The honor system, pass/fail grading, advisors, money for room improvements, money for clubs, money for parties, an easy and quick registration process (compared to most schools), health care, professors who are willing to be flexible, etc. The financial-aid office is generally very forgiving of delinquency with forms and miraculous at discovering new sources of money. Our campus housing is left pretty much in the hands of the students (in contrast, at Harvard they have room inspections every two weeks, and someone I know was fined \$25 for having a tack in the wall!).

With this in mind, it gives me concern to hear reports of arbitrary "decisions from on high" being being pressed on student groups by some administrators. By arbitrary, I mean without consultation with the students affected. As some recent examples of what I mean, the Men's Glee Club has been "requested" not to sing the Hallelujah Chorus at commencement. This has been a tradition for six years, and was felt to reflect the feelings of the graduating seniors. Page house residents were told on no uncertain terms that they were not

to shower the Rickett's Polish Constitution Day Eve party when they came through on their tour of the houses (Ricketts was very disappointed to find the house practically vacant).

I am not a member of the Glee Club or Page house, but I was unhappy about these actions. Rumors of a "dry campus" also worry me. I don't drink, but rules such as these create distance between students and staff. They are a patchwork solution to perceived situations, and often result in defiant attitudes among those affected. A much better approach is open discussion, which hopefully leads to understanding. If all else fails, why not try the magic word ("please")?

I don't wish to be a part of the juvenile system often found at other campuses: where signs warn that "Those caught turning in the same term paper for two classes will be dismissed" (such as I saw at Harvard), where resident associates are really resident police, and where meal tickets are required and the price of your plate is posted in case you break it.

I enjoy telling people that at Caltech we only have one rule, and quote them our Honor System. Lets keep it that way.

Sincerely,

-Marc Turner
Junior

Protection From Robbery

from page 1

phone at which the emergency is occurring.

Deputy Director of Business Affairs, Ron McKinnell, stated that the emergency phone system will hopefully be in place by the end of the calendar year. McKinnell pointed out that the installation is a "...major job. We're trying to access the tunnels for wiring purposes as much as possible, but it is probable that we will have to dig some trenches to get wiring out to the parking lots and so forth."

Ginder asserted that, "We have already mapped out a campus wide placement of these phones. We've mainly tried to place the phones in the areas of the campus where there is the most foot traffic." According to McKinnell, the plans for the phone system have been submitted to Physical Plant, which will go over the plans to make sure none of the phones have been placed over water mains or other wire-interfering structures. Both Ginder and McKinnell put forth that suggestions for the system came from the highest levels of the Caltech administration. "The administration is definitely interested in strengthening security."

Teaching Quality

from page 1

standard, and in a society of university professors, no one wants to be substandard." Dr. Kerry Vahala, an Associate Professor of Applied Physics, agreed, "I find many assistant professors put their hearts and souls into their teaching."

Dr. Goodstein even went so far as to say, "The biggest problem we have with the professors' teaching is their excessive enthusiasm. They are more enthusiastic than they know how to handle." He then elaborated on the detriment such enthusiasm can have on teaching: "What I really like to do is to teach them [the students] everything I know. So I start to teach you everything I know, and so are other teachers. And that overwhelms you. I'm not talking about me, I'm talking about all of us." However, Dr. Chan said of Caltech professors, "Like the undergraduates, they learn to juggle their time and priorities. Because of these constraints, the teaching of our undergraduate courses may occasionally receive less attention than it deserves."

Promotion and Tenure

The process of promoting a professor varies from department to department, but it typically runs as follows: a division chairman sets up a committee whose job is to gather information on that professor. The information includes the quality of the professor's research ability, the number of papers he or she has written, and letters of recommendation from outside experts. The committee then writes a recommendation and the faculty members in the division vote on it.

But, how large a role does teaching play in their evaluation? Dr. Christopher Brennen, a former Master of Student Houses and currently Dean of Students, said, "I can tell you that it's always a component in the decision process." Dr. Goodstein elaborated, "We always ask the question whether he or she is a good teacher, but we first pay attention to their abilities to do research. Caltech would be an utterly different place than it is now if we did not do that." Dr. Charles Peck, a former Executive Officer of the Physics Department, said, "A professor's tenure is determined almost entirely by his research; that is to say, if a professor is a poor researcher but is a good teacher, he is not likely to be granted tenure. On the other hand, if a professor is a good researcher but is a poor teacher, he is quite likely to be granted tenure." In response to the question of the importance of teaching in granting promotions, Dr. Bruce Cain, Vice Chairman of the Faculty, replied, "Teaching is sometimes mentioned at the end of the meeting." From these comments, it is apparent that teaching ability plays a minor role in the awarding of promotions and tenure.

Availability of Good Teachers

With the lack of emphasis on teaching in the selection of professors, how likely is it to find a researcher who is also an excellent teacher? In the Physics Department, there are about 35 professors. Among these 35 professors, there are bound to be some researchers who are competent at teaching. The important thing is to get those professors to teach the core classes like Physics 1 and Physics 2. Dr. Peck said that when he was an executive officer, the criteria he used in selecting people to teach Ph1 and Ph2 were very stringent. Some of these criteria were: 1) the person wants to do it;

features

2) the person has good evaluations from the students from his previous classes; 3) the person must have taught a physics section before.

The assumption, that there will always be a few adequate teachers in any handful of excellent researchers, does not hold up as well in the smaller departments. The Mathematics Department has only about 15 professors from which to select the Math 1 and Math 2 professors each year.

The Electrical Engineering department also has about 15 professors, but its teaching selections are further constrained by the fact that the EE major has an unusual number of special required courses. Out of the 15 professors in their department, only two or three may do their research in the specific field of the required course.

"Caltech tradition has long been to hire professors, who are at the top of their scientific research."

For example, a professor who specializes in linear systems has probably not had exposure to the field of energy processing systems in years, and thus may not be equipped to teach an introductory course in it. So, unlike the Physics Department, which can draw its teachers from a group of 35, the Electrical Engineering Department's selection is usually limited from the outset to a group of two or three.

In a sense, teaching quality is left up to chance. Dr. William Bridges agreed that it was like flipping a coin, if it comes up tails each time then the students have to suffer a bad teacher. This system of selecting the most adept teachers to teach the core courses has a paradoxical drawback. As Dr. Cain said, "The punishment of being a terrible professor is that one never has to teach a course with a lot of students, and those who are good teachers have much, much more work. So the punishment becomes in a bizarre sort of way a reward, and the reward becomes in a punishment."

With many things in life, one has to work with what one is given. "Caltech tradition", according to Dr. Brennen, has long been "to hire professors who are at the top of their scientific research," and any improvement must be made in this context. Currently, the primary source of information about the quality of teaching is the response of the students. The feedback systems such as TQFR (which no longer exists), CLUE, Ombudsmen, and departmental evaluation can play a role in improving the undergraduate teaching quality.

Dr. James Morgan, Vice President for Student Affairs, believes, "Feedback is very important. Take it seriously. It really matters, because I know it does matter." Dr. Brennen said that many of his colleagues take this feedback very seriously. Dr. Chan pointed out, "All divisions now have in place ombudsman systems to provide almost immediate feedback of teaching to the instructors of most classes while they are in session. The students should take advantage of this system to communicate problems with courses to the instructors."

In the past, many students have written excessively rude feedback to the Faculty. Dr. Brennen said, "The Faculty was very upset about the nasty comments." Dr. David

Goodstein said that a colleague of his was so blasted by TQFR that he retired early from Caltech, because he couldn't take it any more. CLUE was introduced last year, and it is still too new to judge its effectiveness. But it seems to give constructive rather than destructive feedback. Dr. Morgan said, "I read the first two editions, and I found a great improvement over TQFR because it was written and edited with some care."

However, there are limitations on what the professors can do with this feedback. Teaching is an art. Not many people are capable of communicating their ideas effectively no matter how hard they try. Dr. Peck said he had a colleague who was just a "lousy communicator". The students complained to him about his colleague's teaching. Dr. Peck went to that professor's lectures and tried to provide constructive advice. He said that it was obvious that his colleague tried very hard, but still the students thought he was terrible.

It is true that at Caltech, there is a lack of emphasis being placed on teaching quality when selecting or promoting professors. Many of those interviewed not only admitted this fact, but suggested that it was, to some extent, intentional. The most valuable advice for students was suggested by Dr. Morgan when he said, "If the Dean, or I, hear from one student, well... it could be just one student. If you hear from a dozen students, it's hard to be wrong about that." It is not enough to depend upon your classmates' feedback, you must let your own voice be heard.

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FRIDAY NIGHT ASCIT MOVIE

Presents:

OUT OF AFRICA

With: *The Sorcerer's Apprentice*

Baxter Lecture Hall

7:30 & 10:30 p.m.

\$1 for ASCIT members

\$1.50 for others

Next Week:

The Mosquito Coast

ENTERTAINMENT

Last Crusade as Good as Original

by Gavin Claypool

After a five-year hiatus, archaeologist-adventurer 'Indiana' Jones is back, with Harrison Ford reprising the title role in *Indiana Jones and the Last Crusade*.

The wait has been worth it. After the disappointing *Indiana Jones and the Temple of Doom* (its PG rating was so controversial that—in a knee-jerk response—the MPAA actually added a new category [PG-13] to the rating system), this new film attempts to return to those elements that made *Raiders of the Lost Ark* so successful.

For the most part, director Steven Spielberg succeeds in this quest. *Last Crusade* is not so relentless fast-paced as *Raiders* was; more depth in interpersonal relationships is shown, with the introduction of Dr. Henry Jones, Indiana's father (portrayed by Sean Connery).

Having two of Hollywood's superstars/superheroes in the same film is risky, but Ford and Connery carry the film without a sign of strain. The best scenes here are often not action scenes, but their reactions to each other.

This adventure is launched when Indiana discovers that his father has disappeared while directing a research project in Venice. The American industrialist who hired him, Walter Donovan (played by British actor Julian Glover), is looking for the Holy Grail because of its reputed gift of immortality. The search for the senior Dr. Jones thus becomes a race for the Grail, with Nazis, a fanatic brotherhood, and Donovan in pursuit.

Two co-stars of *Raiders* were brought back for this sequel, but their roles pretty much go to waste.



Indiana Jones (Harrison Ford), on horseback, is chased by a Nazi tank in *Indiana Jones and the Last Crusade*.

John Rhys-Davies (as Ford's Arabic friend Sallah) has only one good line. Denholm Elliott plays museum curator Marcus Brody as being far out of his depth on this adventure (which is okay) and as

a buffoon (which is not). Alison Doody plays the only major female in the film, Dr. Elsa Schneider, who is equally obsessed with finding the Grail as the other contestants. She is only sketchily

developed as a character, however; as the final scene drives home, this is an old-style, cowboy/'partners'-type film.

River Phoenix does a tremendous job as young Indy, in a

flashback sequence that reveals some formative influences on his life. The reason why a Grail-obsessed, but otherwise sensible, professor would name his son 'Indiana' is also disclosed.

Animation Festival

by Paul Socolow

Once again, the term comes to an end and Cinematech brings you another in its continuing, god-awful series of animation specials. This time it's the *21st International Tournee of Animation*, with 14 pieces from nine countries.

The shorts range from the comedic (Neville Astley's "Living in a Mobile Home") to the introspective (Paul Driessen's "The Writer"). Every film is well done and entertaining, even the thirty minute finale "The Man Who Planted Trees," which, despite its length, is able to hold the viewers attention throughout its entire length. Those of you who were dismayed by last term's commercial-ridden festival can take heart; the commercials that are in this presentation are both few and entertaining. At only \$1.50, the festival is certainly the best entertainment buy for the upcoming week.

The *Tournee of Animation* will be shown on Sunday, Monday, and Tuesday at 7:30 and 10 pm in Baxter Lecture Hall.

Y News

PARTY!

Keep the day's festivities going by going to another great party brought to you by Sue, Julie and Andrew. This will be the last Caltech party they will ever throw so they decided to bring in the *New Marines* to make sure everybody parties hard. All Caltech students, past and present, faculty and staff are invited to this monstrous event being held at Dabney Gardens. Party starts at 9. Bring Caltech ID to be admitted.

Missing

Look, if anyone knows the whereabouts of Julie Sheridan's 35 mm Nikon One Step camera, please call the *Julie Sheridan Lost Camera Hotline* at x6163 immediately. She lost the camera at the ASCIT Formal and would really like to have at least the film returned, although the camera would be nice also. She is offering an incredible reward for the return of the camera. Jules has been working day and night to help produce tonight's party so do her a favor and help her get her camera back.

More Music

If International Day has sparked an interest in ethnic music, the Foothill Master Chorale will perform Folk Songs and Ballads from around the World this Sunday at 3 pm. The Caltech Y has a limited number of complimentary tickets available for this concert. The Y also recommends the PA 31 Chamber music concerts for

all lovers of chamber music. There will be two chamber music concerts—one tonight at 8 in Ramo Auditorium and the other on Sunday at 3:30 in Dabney Lounge. The concerts feature traditional works by Beethoven, Bach and Haydn as well as some non-traditional works by Bozza, Staeps, and Martinu.

Never Stop: Front 242 Live at the Palace

by Carl Roth and Curt Hagenlocher

The average Front 242 song runs at about 120 beats per minute. In the course of the Tuesday night show at the Palace, the crowd sustained more than ten thousand of these, throbbing through the seats, the floor, the people themselves. At a volume approaching the threshold of pain, it made for an unforgettable evening.

Opening with a futuristic, smoke-filled laser fight, the show was dizzyingly propelled by a

sophisticated lightshow. A combination of spotlights, disco lights, strobes, and colored filters battled with the smoke-filled air for your attention.

The three band members were all wearing shades, probably out of necessity. During the opening, they sported welding masks to shield themselves from the lasers, but then proceeded to cut into the crowd with their high-tech props. They were dressed fashionably in industrial-grey combat gear, and wore their hair either very short or not at all. The sparse stage, decorated with a single large militaristic banner, was mostly taken up by electronic instruments and tape machines. Any leftover space was filled with smoke, lights, and energetic band members.

The audience loved it. It is doubtful that 242's large European following would have thought of

slamdancing and stagediving, but hey, this is Hollywood. The sea of alternative haircuts and black clothing pulsed to the relentless drum machines and the tauntings of the lead singer. Such anthems as *Headhunter* ("I'm looking for this man/To sell to another man/For ten times his price at least") and *Welcome to Paradise*, a digital sampling assault on televangelist ("No sex until marriage") highlighted the evening.

The trio from Belgium, known for their international flavor and appeal, is currently promoting their latest album, *Front by Front*, available domestically on Wax Trax Records. With a consistent, hard-edged beat often missed on club floors these days, they are the best example of the industrial influence in dance music today. In the words of their latest single, it would pay to "listen carefully."

International Day

The name in itself explains this annual display of ethnic culture at Caltech. Offering food and live entertainment, the Caltech Y is proud to be a part of this gala event produced by Excomm member Bassem Mora. For a more detailed listing of the days events, be sure and read the International Day article by Excomm member Andrew Hsu. The festivities takes place outside of the Winnett Student Center and begins today at 4:30.

Renaissance Pleasure Faire

Eat, drink and be merry at the Nth (where N is a large number) annual Renaissance Pleasure Faire. This incredible facsimile of a 16th century English village will offer crafts, food and entertainment in the grand English tradition. The Faire is located at Glen Helen Park in San Bernadino and runs on weekends until June 25. The Caltech Y has heavily discounted tickets available: \$5 for students, and \$8.50 for faculty and staff.

LAEMMILL THEATRES

ESQUIRE

2670 E. Colorado Blvd.
(818) 793-6149

"Exhilarating!"—*Rolling Stone*

John Hurt
Scandal

Mon-Fri 5:45, 8:00, 10:15 pm
Sat-Sun 1:15, 3:30, 5:45, 8:00, 10:15 pm

COLORADO

2588 E. Colorado Blvd.
(818) 796-9704

Ken Russell's film of
D. H. Lawrence's
The Rainbow

Mon-Fri 5:15, 7:30, 9:45 pm
Sat-Sun 12:45, 3:00, 5:15, 7:30, 9:45 pm

Leadership Conference

by Paul Amadeo

Once again, the Caltech Y and the Ametek corporation will be sponsoring the Ametek Leadership Institute. This program consists of three days of lectures, experiments, and demonstrations. The institute covers such areas as managing conflict, managing interpersonal relations, assertiveness skills, team building, managing effective meetings, and managing time.

In the past, the institute was offered only to the officers in campus organizations. This year, however, the institute is open to anyone who wishes to participate. This is not your typical industrial strength management seminar, chock-full of boring lectures. The instructors, who teach these classes professionally to large businesses, engage the students in various activities, such as LEGO building, videotaping themselves in conflicts, and even a marshmallow fight, which keep the days very interesting.

As an alum of the Ametek Leadership Institute, I can sincerely say that the skills I learned in the classes have been useful to me in communicating with other people, and in organizing both myself, and larger groups. If you have the opportunity to attend the institute, I encourage you to do so.

The Leadership Institute will be held from September 18 to September 20, 1989; merely a week before school starts again. The sessions meet at the Industrial Relations Center, 383 S. Hill, where the students will be served breakfast all three days. The students will also have lunch all three days at the Athenaeum. The Leadership Institute is free of charge and open to both undergraduate and graduate students. For more information, you can call x4044, or you can go sign up at the Y.



Ballroom Dance class practices the West Coast Swing, the official state dance of California. The class is taught by Erin and Tami Stevens of the Pasadena Ballroom Dance Association, and it includes waltz, foxtrot, and swing. Free to Caltech students, the class meets at 4:30 on Mondays in Dabney Lounge. No partner is necessary.

photo by Marc Turner

Mathematics Awards

Several Caltech undergraduates were honored on Tuesday night at the annual Caltech Mathematics Awards Banquet, held at the Athenaeum. James (Jim) Coykendall, IV, a senior mathematics major, received the E.T. Bell Undergraduate Mathematics Research Prize for a paper on Picard groups of polynomial rings. Sophomore Russell Manning received the Morgan Ward Prize for a paper giving a recursive development of the Catalan number formula.

Each prize, consisting of a cash award and a certificate, is financed by funds won by Caltech teams participating in the William Lowell Putnam Competition, a national mathematics contest. The Caltech team, which ranked fifth in the 1988 competition, consisted of Bill Cross, Robert Southworth, and Glenn Tesler. Team member

Robert Southworth, and Edward Ratner, an individual contestant, each won honorable mention for placing in the top 50 nationwide. Team member Bill Cross received a special award for ranking sixth nationwide.

Professor David Wales, Executive Officer for Mathematics, announced the winners of the H.J. Ryser Scholarships for 1989-90. These grants are supported by an endowment from the estate of the late Herbert J. Ryser, who was Professor of Mathematics at Caltech from 1967 until his death in 1985. Ryser Scholarships of \$5000 each were awarded for the next academic year to Li Wen Ho and Seth Bittker.

Two teams of Caltech undergraduates that participated in the fifth annual Mathematical Contest in Modeling sponsored by the Consortium for Mathematics and Its Applications (COMAP) were also honored. Steve Bard, Bill Cross, and Robert Southworth were members of the Caltech team that ranked first among 93 teams from across the nation that worked on the Midge Classification Problem. A second team consisting of Dean Brettle, Robert Chang and Daniel Ko received honorable mention for their work on the Airport Scheduling Classification.

Star Wars or Star Wars

from page 1

They are to circle the earth, with about one out of every fifteen to be over a Soviet launch area at any one time. Upon confirmation of a Soviet launch, the Brilliant Pebbles act autonomously, each flying toward the nearest missile and destroying it without a nuclear explosion.

In meeting the Nitze Criteria, Brilliant Pebbles could be militarily effective against present Soviet missiles with long burn times and which gain great altitude. However, against shortly-launched low-cruising missiles like our MX system, Brilliant Pebbles is completely ineffective. So, at best, Pebbles is an interim solution, forcing the Soviet Union to upgrade their missiles. As for cost effectiveness, Brilliant Pebbles could either be good or bad, depending on how many pebbles decide to attack the same missiles. The estimated cost per pebble is \$500,000 with a possible need of 25-100 pebbles per Soviet missile. And, as for survivability, unless the pebbles are made extremely brilliant, they could be destroyed by cheap "space mines" or "a bucket of nails."

continued above

from below

After a Soviet upgrade, the Star Wars program would concentrate on laser systems. The effectiveness of sending a laser beam up to space, bouncing it off a few mirrors, and having it hit and destroy a moving target is fairly certain: "It will work given enough time and money." The technology yet to be developed includes how to calibrate the lasers to pass through atmospheric interferences, how to make large, strong perfect mirrors, how to determine decoys from live warheads, how to send messages coordinating all of the mirrors and satellites accurately, and how to protect all of this from being knocked out by simple Soviet defensive tactics. The system would cost trillions of dollars and would be highly ineffective against submarine-launched missiles.

But, as Dr. Bowman indicated, "When we can't fulfill our mission, what do we do? Abandon the program? No. We change the mission. And the current mission of SDI is to create uncertainty. Create uncertainty. There's no uncertainty now!"

So, why do we really pursue Star Wars? Bowman suggested a few reasons: for a first strike; to make nuclear weapons a threat again; for political coercion; to take out satellites, seize control of space and then of earth (or as President Reagan put it: "to project force in and from space"). But definitely not for defense.

"Why not gain superiority?" I've been asked," said Bowman. "Well why would the Soviets sit idly by while the U.S. deploys an effective system?" According to Bowman, the Joint Chiefs of Staff agreed in 1984 that Star Wars would increase the chance of a nuclear war; and, later that year, control of Star Wars was taken out from under them.

What about both superpowers having SDI? That way explained Bowman, first strike merely means destroying targets in space and then winning a nuclear war.

Bowman's suggestion for the Star Wars program is to use it as a bargaining chip. And this needs to be done soon, before too much money is backing up SDI. Just as the NRA can keep assault rifles legal, so too will defense companies be able to keep up Star Wars funding, said one California employer: "I have 400 people employed in Star Wars. None of them believe in it."

In response to questions about accidental launches with the bomb, Bowman explained the self-destruction of missiles. In regard to madmen gaining access to the bomb, he said that these men would not develop the missile to carry the weapon through space (at least not without much time and U.S. intelligence detection). "They might instead decide to fly the nuclear device to fly the nuclear device into Red Square on a Cessna."

Bowman concluded: "In days of old, people worshipped idols of gold and silver. Today the idols are made of plutonium and uranium. But they are idols nonetheless. Until we take our trust out of these and put it in a new way of thinking, including mutually-assured survival, we shall never be secure."

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The Inside World

This week's Inside World was brought to you by:
Ricketts: Dan Raguin, Gaby Cornejo and Mike Meckler
Ruddock: Betsy Andrews
Dabney: David A. Edwards
Lloyd: Tom Capellari, Atul Srinivasan, Brooks Bishofsberger

Ricketts

Last weekend the Ricketts House lounge was temporarily moved to Fallbrook, at a location generally known as the Capra Ranch. The weekend proved very insightful, especially concerning the plans that many Scurves have for their futures. Todd Rowland has decided, beyond any doubt, that he will become a carpet installer. Eric and Heidi will open a bakery together, Nathan will be the next Jimi Hendrix, Gabriela will major in Phys1, and Dave Shultz will be gang-green forever. The most shocking revelation, however, is that Lee Rowen will soon publish her years long research on Harlequin Romances. The only thing that could be more surprising is if Sam Sjogren decided never to be crude again. Bhushan of course proposed to Susan. Results of the proposal are not fully known as of yet though.

Josh Kurutz spent his weekend vacationing at a marine base. Apparently he had to ride his bicycle around the perimeter of the base five times before they would give him the necessary clearance to use their bike path. My question is whether anyone has seen Josh lately? Someone told me that he had been babbling something about vehicles over 20 tons and wanting to go hold up a bridge. We now bring you our special guest Inside World writer, the Ricketts House Church Lady.

Hello all you good scurves and members of the Caltech community. I asked to be given this opportunity to speak to all of you because I felt a pressing need to describe a dreadful affliction which plagues our sacred House. This scourge is nothing less than a rapid decay of the moral values of the upstanding members of this house! You are shocked, I am sure, but wait until you hear the gory details of this plague.

I know that in the past there have been persons whose behavior has been, shall we say, less than virtuous. But now I see the signs of sin everywhere I look! And last week I knew things had gone too far when the Ricketts House Gavel turned up missing.

Yes, that evil rogue who stole the gavel had stolen nothing less than the very heart and soul of Ricketts House. This action was symbolic of the ethical atrophy to which I have been a silent witness for so long. The gavel, that treasured beacon of order, that beloved icon of righteousness has been tainted by its liaison with evil. I myself am deeply saddened by the loss.

What can be done to reverse this shocking trend? Let us all push for a kinder and gentler Ricketts House. A House where the members, smiling, embrace one another with feelings of love and companionship. Let us all work towards this noble, worthy goal. Amen. Thank you, Church Lady. We now return you to our usual commentators.

I remember that in the past there were Inside World writers that always ended up writing about their mates. Dan and I will now take this opportunity to resort to these infantile ways:

Sam woke up Monday, brushed his teeth and took a shower. He does this everyday, but I still think it's wonderful; I was in awe. Then he ate lunch and I just couldn't take my eyes off him. Have you ever noticed how incredibly eloquent and witty Sam is. If I were responsible for the House List, he would be House Mouth because everything he says is interesting.

Laura also woke up on Monday. I of course needed to prompt her out of bed, though. She wandered out of bed, brushed her teeth, and then combed her hair. It was truly exciting the way the morning sun hit her cheeks as she performed these tasks. She then walked sexily to her morning class and I had to once again wait in anticipation before I could see her again. Okay, more quotes for you readers to rack your brains over.

- "The hairs, on my back? That's a strange thing."
- "Ma'm, you've suffered an emotional crisis. I will notify the local rape center."
- "Can a sick man do THIS!"
- "As God as my witness, I will never be hungry again."
- "What's up royal ugly dudes!"
- "After all tomorrow IS another day."
- "Here's JOHNNY!"
- "I'll get you now my pretty, and your little dog too!"
- "This message will self-destruct in 5 seconds"
- "He's dead, Jim."
- "Ancient Chinese secret, huh?"
- "Missed it by thaaat much."
- "Sleep all day, party all night, never grow old, never die."
- "At 10:30 I get dirty."
- "Back off! I'm a scientist!"
- "It's not my god-damm planet, Monkey Boy!"
- Well, th, th, th, that's All Folks! (Oh yeah, Ditch Day was yesterday).

-three people

Ruddock

Hey ya'll! We're all happy campers here in Ruddock House ... Always have been, always will be—even me and I'm going to Illinois. If you're not a happy camper though, there are ample upcoming opportunities to forget all your worries and join our happy ranks.

The Drinkoff is tonight you puny, non-senior lightweights (we will be plating several bathrooms for your technicolor yawns) and don't forget to take advantage of the free liquid refreshments at the New Marine party—they count too.

Since Ditch Day was yesterday you can imbibe away your hangovers as I plan to do the painful memory (reality?) of my third term senior year blue slips. OOPS! Maybe we should redo room hassle so I can live at 290 next year.

If alcohol isn't the way to a happier you, maybe the Affirmative Action questionnaire is. It'll only take an hour to fill out and the questions touch on subjects near and dear to every undergraduates heart.

I was sailing, sushiiing, hot-tubbing, and partying in the Bay Area this weekend so I missed all the excitement here. The folks that went to Magic Mountain say the word of the week is depeditate—you know, like decapitate. Pretty gross, huh? Gives a whole new meaning to bloody stump. Nancy, Celia and Larry said the formal was nice ... I guess that means a good time was had by all—isn't that special?

Well—its time to go crush Fleming in football so I guess I'll finish this off with a timely top 10.

Top Ten Things to do for Ditchday

10. Sleep
9. Have Larry Canino shoot 100 free throws in the Lloyd courtyard... nude
8. Deathrace 2000 with Daihatsus
7. Have Mateo wear a spandex tiger stripe g-string and pluck Jon Liljebad's eyebrows with his buttocks
6. Make Ralph streak through PCC's campus
5. The biscuit game
4. Make Nik take all his clothes off
3. Make Nik leave all his clothes on
2. Invite important administration types over for a Ruddock house pornfest
1. Make Milton lick whip cream off Cathy

28 days! 900 beers! No problem

-Bets the frosh

Dabney

So I have to properly debase myself this week. I really don't understand what all the fuss is about. Fall roompick rule 248.3(a) clearly stated that "the real fall roompick will begin at 11:30. At 10:30 a trial fall roompick will be held, which will serve only to confuse people and get an impeachment movement going." I mean, I can't help it if sophomores are scuzzy people with absolutely no sense of fairness who were using my new and unimproved rules to their own advantage (oh my God, they're turning into little David A. Edwardses). Oh, well, the important thing is that after one hour more than was necessary, everybody has a room—even though I really screwed things up. I don't understand what everyone was so upset about. I thought everybody would be happy that I was conspiring to send Erich Schneider and his whiny nasal prepubescent little voice (though his voice is changing, as his announcements are showing) off campus. But no! Everyone wants him hanging around campus.

Your Uncle Dave did take care of everyone, though. No one had to enter the evil MOSH-owned and operated off-campus lottery. And almost everyone is happy about where they're living—except for a few people. Tracy got forced off, a fact about which Richard isn't too happy, either. Golda will probably soon be unhappy to learn that she's going to be living with a bunch of prepubescent sophomores whom she will not be able to dominate and who smell worse than her dogs. I'm not happy because I thought I had sworn on all that I held holy that I would never live in Alley 7 again. Oh, well, I'm the secretary, God damn it, so arrangements can be made. Speaking of arrangements, if you want to be placed on the on-campus waiting list, come talk to me.

Last week's 60 Beach Trip was a big flop. (Surprise, surprise.) Oh, well, everyone came to Rus' social event instead and the house ended up paying for it (or should that be "Jon made the house paid for it"?). Speaking of Jon Hamkins, I must issue a retraction about something I said last week. Jon isn't the ASCIT Election Chairman. He's the ASCIT Election COMMITTEE! Sorry, Jon. I didn't mean to deflate your Hindenburg-sized ego.

weekend is Capra Weekend. Believe it or not, Erich, there will be some of us who are going to work. Therefore, if you have an idea for Rotation, please give it to someone who will be going to Capra. Otherwise, I don't want to hear you bitch if you don't like what's going on. I am going to stick to my campaign promise: something stupid every night of Rotation. Also the first discussions about the legendary Dabney House Frosh Camp Skit will be held at Capra, so if you have an idea about that, communicate it! Jon wants it to be a hit, but he isn't willing to wear a dress since we are bringing no women to Frosh Camp. (p.s. My car is leaving at 12:30. If you don't want to walk, don't be late.)

If stormtroopers swarm over Dabney House this weekend, don't panic. Hide your drugs, but don't panic. They're from the San Diego Police Department and they have a warrant out for Robert Hanna's arrest. It seems that he promised to get 60 women to come to the annual Policeman's Ball, and I'm sure you can figure out the rest.

Special House Event for the Rest of the Term: Please, everybody, every time you see Steve Byers reading a book in the library, note the title, then come back later and take the book back to your room. If we do this enough times, he'll implode!

Senior Send-offs

Alex Gilman, Chemistry. Alex has decided that he's really going out into the real world this year, no matter how much we want him to stay (said the Inside World writer with a tear in his eye). He hopes to work in industry somewhere as a chemist testing new drugs, since that seems to be his major area of expertise. Perhaps the whole house can write him a recommendation.

Dave Flowers, Engineering and Applied Science. Dave is another senior with very focused goals about the future. He's going to work "somewhere" in computer science (surprise, surprise). Unfortunately, knowing Dave, "somewhere" will probably be level 40 of Hack.

Stanley Chen, Mathematics. Stanley, as usual, is trying to do everything ahead of time. He has chosen his graduate school—Harvard—and his field—Natural Language and Knowledge Representations. That's definitely something they didn't teach you at Harvard Business School. In fact, Stanley has already begun work on his dissertation, which has something to do with building an intelligent computer and then hooking it up to Steve Anderson to keep him from doing stupid things. Sort of like "Flowers for Algernon", except that this time the mouse will always win. When asked why he chose Harvard for his graduate school, he replied, "Because Don's going to Stanford."

Donald Finnell, Physics. Don will be pursuing a graduate course of study at Stanford University in theoretical physics. He is considering living with Brian in a sort of Party Theoretical Physics Double. Somehow I don't think it will be as exciting as the former CS Party Triple. Though Don suffered severe emotional depression when he learned that Stan was going to Harvard, he quickly coped by dabbling in hydroponics and pyrotechnics. Now he just gratuitously mentions the phrase "commuter marriage" a lot. Rumor has it that at present he and Stan are negotiating a deal with Pacific Bell to make "please don't drift away" commercials.

-Sodium Bidarbonate

Lloyd

Ditch Day is tomorrow. Amul has a limp. This week's eMPTY Inside World is brought to you (in truly bad taste) by Dalda Motor Oil, available in grades 32-A to 52-HH, and by the Canadian Board of Tourism.

Conversation excerpt No. 2

- Amul: What is this Canada reference? I don't get it.
- Kato: Did you understand your Drop Card? Especially the "MT" reference?
- Amul: Yeah, empty gas tank, pulling a Kutu, right?
- Kato: No, no, no. You see, we are not just bastards, we are fuckers. Perhaps I should leave a message on your door. "Amul doesn't understand the MT reference. Maybe someone could xxxplain it to him." Do you get it now?
- Amul: Oh!, yeah. But what's it got to do with Canada?

Conversation excerpt No. 3

- Biddu, 1Bounced, & Kato: San Diego!!! Where's the battery?
- (unknown): It's with the EE91 project!!!

Conversation excerpt No. 4

- Biddu: Dave... Dave... where are you Dave?
- Dave: 1Bounced, what's in the bottle?
- Biddu: Oh my God!! It's CHOY SAUCE.
- 1Bounced: No, dammit, it's Co-hoke.

Conversation excerpt No. 5

- Ghani: You bastards, where's my jacket? I'm going to kill you.

Conversation excerpt No. 6

- Kato: One Bounce!
- 1Bounced: No! You bastards, not now!
- Biddu & Kato: Bo-honus! Right nard shot. One bounce. Right nard.
- 1Bounced: Kank! You bastards... where's that scalp?

Conversation excerpt No. 7

- Biddu, 1Bounced, & Kato: "Interceptor"? I don't even know her.

Conversation excerpt No. 8

- Earl: Aaaah! She pretty cute! Aaaah!

Conversation excerpt No. 9

- Biddu: Honeydew!
- Kato: Honeydew!
- Biddu & Kato: How's her mouth 1Bounced? Remember, M&Ms melt in your mouth, not in your hand.

Conversation excerpt No. 10

- Kato: Game over man. Game over! O, B in the LKZ! Nobus! Game over! I'm fuckin' outta here.

Conversation excerpt No. 11

- Kato: So, Amul went to the Formal with ...
- Kunta: With RBF.
- 1Bounced: RBF?
- Kunta: Rotten Baby Flesh.
- 1Bounced: That's good. Oh, grim. Just grim.
- Kunta: I saw him at 9:30 in Lower Crotch reading the paper. I was going to ask him, "Was it worth forty bucks?"

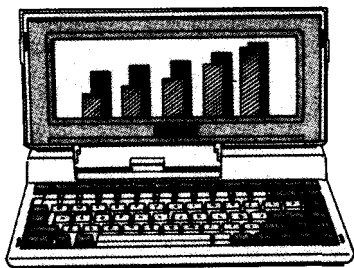
Kutu's Top Ten Motorcycling Tips

- 10) Give a wide berth to Tata trucks bearing Amul cheese, or you'll be "sari."
- 9) Don't pull a wheelie to cop a "feelie."
- 8) Whenever you get eMPTY, fill'er up.
- 7) Be safe, weld the crack in your centerstand.
- 6) Overcome bent handlebars by adjusting the load on your back
- 5) San Marino Police always help 005, Licensed to Fall
- 4) Texas mechanics are great at removing chinks in the chain, but often break tools on a red hot rivet.
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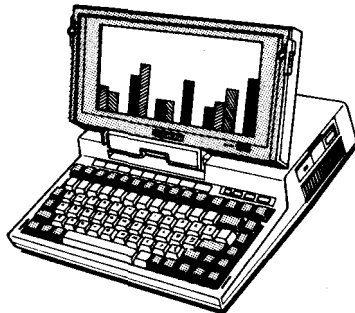


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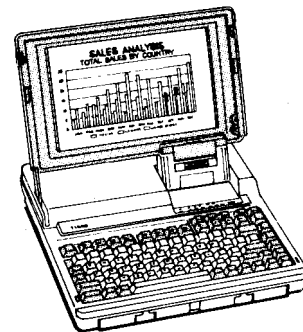


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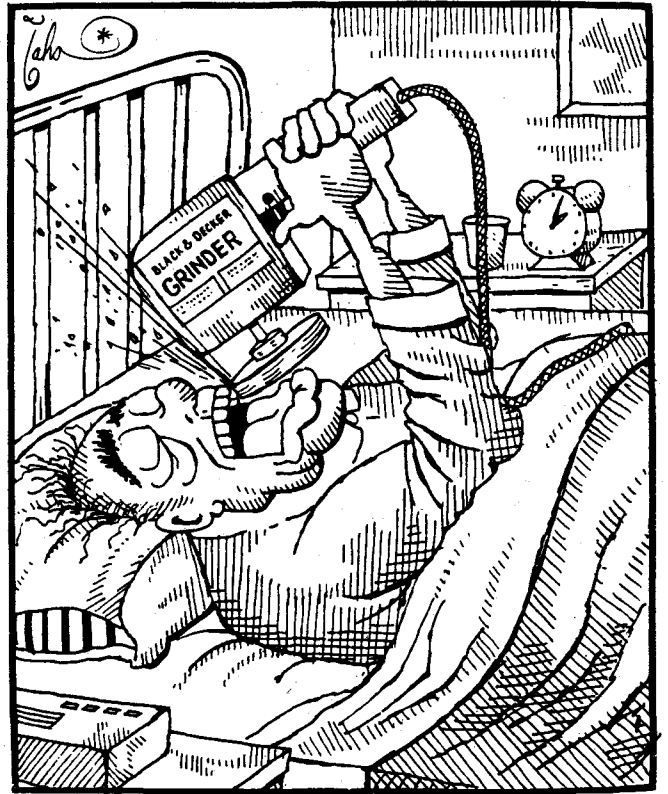
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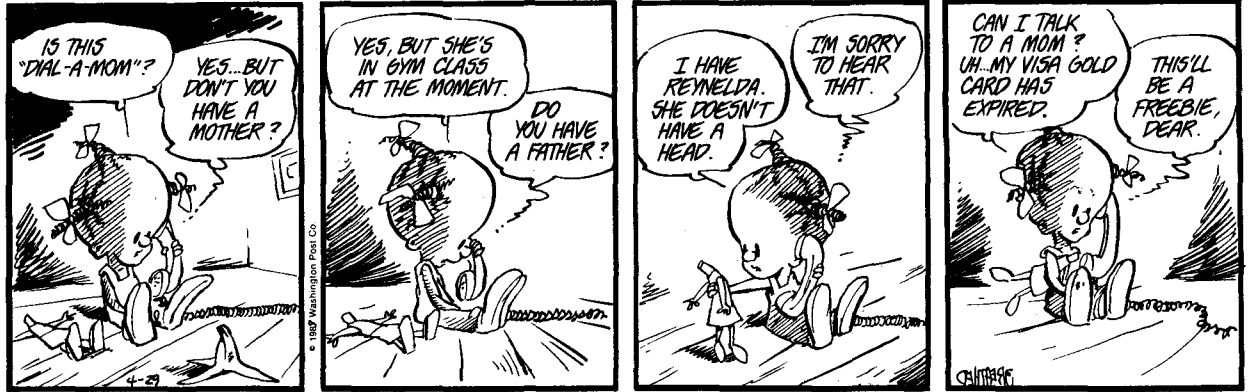
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2. *Rastaman Vibration*, Bob Marley and the Wailers
3. *Talking With The Taxman About Poetry*, Billy Bragg
4. *It Takes a Nation of Millions to Hold Us Back*, Public Enemy
5. *The Queen is Dead*, The Smiths
6. *Radio One*, The Jimi Hendrix Experience
7. *I Crush Bozo*, The Happy Flowers
8. *Quadrophonia*, The Who
9. *Bringing it All Back Home*, Bob Dylan
10. *Til Things Are Brighter*, Various Artists



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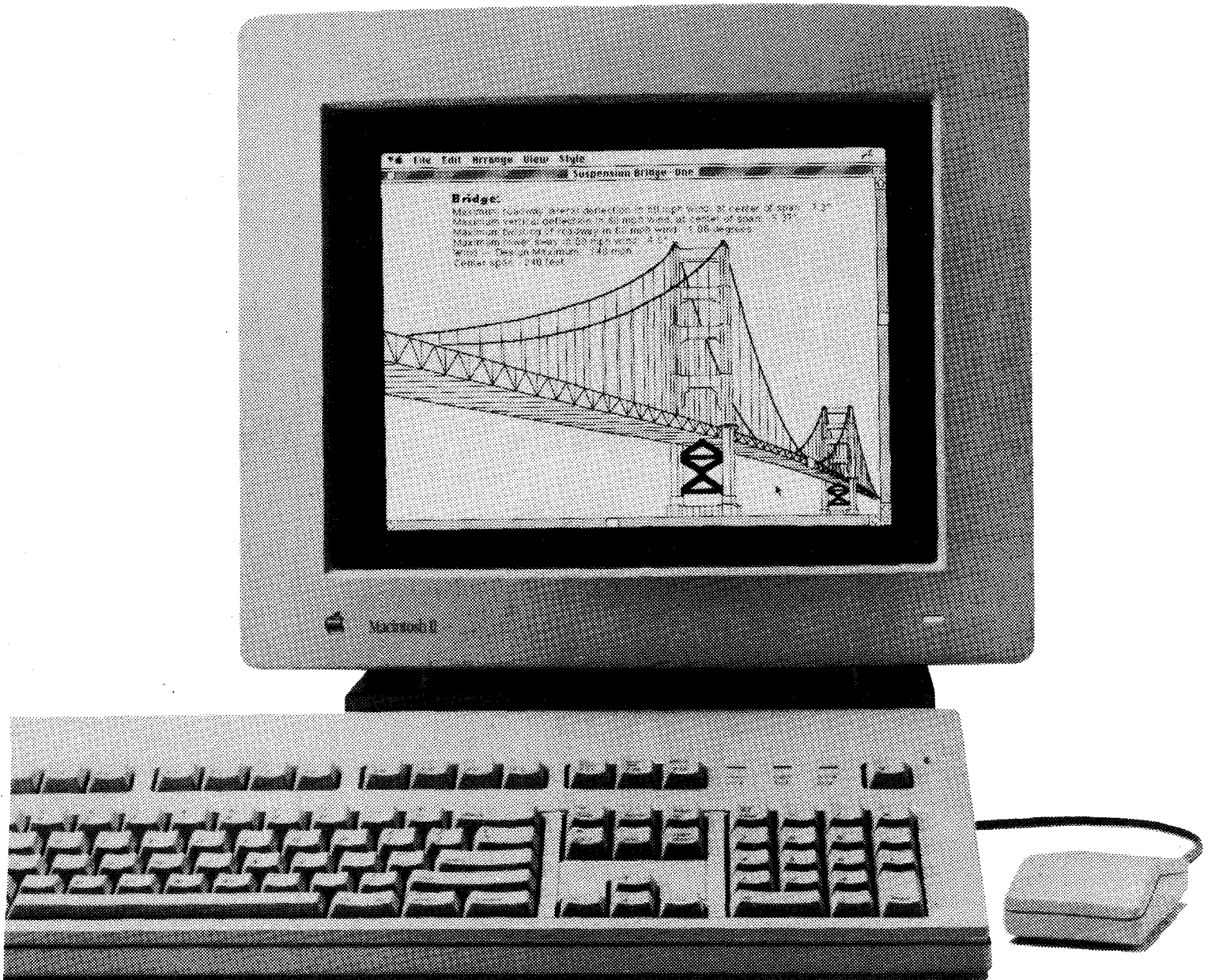
All of which is good reason to do one simple thing the next time an assignment has you stressed out: Plug one in.



The power to be your best.™

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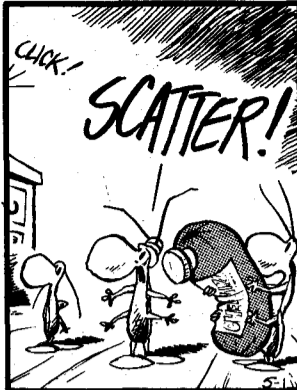
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FINALLY REVEALED:
 WHAT YOUR COCKROACHES ARE DOING THE SECOND BEFORE YOU TURN ON THE LIGHTS...
 (EXCLUSIVE)



NOW SQUIRT THE 'CHEEZ-WHIZ' IN THEIR UNDERWEAR!



AT NINE MILES UP, THE MIGHTY SHUTTLE BOOSTERS FALL AWAY...

SUDDENLY... A SYSTEMS ERROR! THE NOSE CONE HAS BROKEN AWAY AND IS HURTLING TOWARD THE EARTH!
 STOP THE STORY!

I HAVE A PROBLEM.

IT BETTER BE GOOD.
 WHAT'S THE MATTER?
 SOMEONE PUT 'CHEEZ-WHIZ' IN MY SHORTS.

AT NINE MILES UP, THE MIGHTY SHUTTLE BOOSTERS (AGAIN) FALL AWAY...

...SUDDENLY... A SYSTEMS ERROR! THE NOSE CONE HAS BROKEN AWAY AND IS HURTLING TOWARD EARTH!

...WHERE A GENTLE PILGRIM STROLLS INTO HIS FAVORITE SPRING MEADOW...

...AND INTO ETERNITY.
 PRENT?
 KIDS! ISN'T THIS MORE EXCITING THAN 'BARFIELD'?

EXCUSE ME... BUT A CHUNK OF SPACE SHUTTLE JUST FELL ON BLOB BUTT.

CALL 911!
 CALL 911!

OMIGOSH... OMIGOSH...
 LOOKS BAD.

FER CRYIN' OUT LOUD... PULL HIM OUT!
 GRAB HIM!
 HE STILL HAVE 'CHEEZ-WHIZ' IN HIS KNUCKERS!

For Peter Ammon(sp?), here is the past three weeks of Bloom County.

MIS / 4-D Developer

Established Recycling Firm seeks a 4-D Manager to supervise the Computer Department. Applicant shall be responsible for coordinating our staff of 4-D Developers and Data-Entry personnel on all projects. Established in 1927, our Company is currently undergoing a complete computerization. With over a dozen Macintoshes connected via Appleshare, PhoneNet, and Tops, we are looking for someone to "Take Charge" and organize the administration of all 4-D development. Applicant must also know Excel, FullWrite, PageMaker, Illustrator, and Hypercard.

Salary Open; depending on experience

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MicroSim Corporation

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MicroSim Corporation is a leader in developing simulation tools for electronic design. Our PSpice program is the first commercial mixed analog/digital simulation system available, and runs on IBM-PC's, MacIntosh II, Sun, Apollo, and DEC VAX systems. MicroSim is a relatively small, rapidly growing, employee owned company which was founded by Caltech graduates.

MicroSim is looking for junior level or above electrical engineering students to work this summer at our Irvine, California headquarters. We have several projects developing simulation models to complete this summer, and we need a small number of self-motivated individuals who can learn quickly and take a project from start to finish. There are projects developing simulation models for analog devices (discrete and integrated), digital IC's, and mixed analog/digital IC's. Knowledge of basic electronics (EE 14) is required; more advanced electronics knowledge (EE 114), experience with circuit simulation techniques, computer programming, or device modeling are all desirable.

The salaries are competitive, plus, at the end of the summer, the IBM-AT compatible which you will be using during the summer will be yours to keep. If you are interested, please call or write:

Mike Wimbrow
 MicroSim Corporation

20 Fairbanks Street

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 Irvine, CA 92718

HAPPY HOUR at the dentist?



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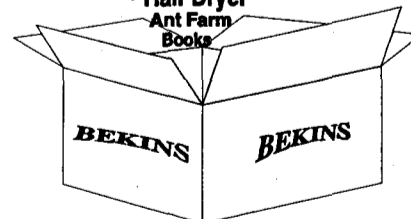
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The Bekins BoxStore



Bloom County by Berkeley Breathed

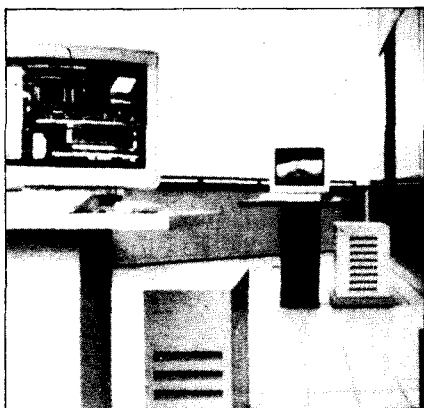
アメリカン・ドリームからジャパニーズ・ドリームへ。

ワークステーションのトップメーカー Sun Microsystemsの日本法人が有能な人材を求めます。

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TECHNICAL SUPPORT ENGINEER
SOFTWARE ENGINEER
FIELD SERVICE ENGINEER
SALES ENGINEER**

コンピュータの歴史をつくる企業

1982年の設立以来、またたく間に世界最大のワークステーションメーカーに成長したサン・マイクロシステムズ。その急速な成長は「アメリカン・ドリーム」と評されたほどです。最高の頭脳とオープンな企業風土がそれを可能にしたのです。



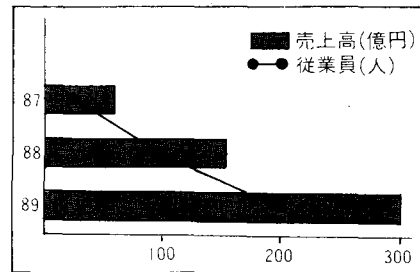
TECHNOLOGY

さらにSUNの成功の要因は、UNIXの採用、そしてアーキテクチャの公開です。そこには、先進技術のリーダーであり続けられるという自負と、リスクを乗り越えていくチャレンジングな精神があったからです。また、AT&Tと共同で提案したUNIXの統合化には世界中のコンピュータメーカーが参加の意志を表明しています。ユーザーにとって最高のコンピュータ環境を常に提案する—それがSUNの使命だと考えています。



日本市場では

日本サンマイクロシステムズは1986年に設立。以来、SUNのワークステーションは日本市場においても短時間でトップの地位を確立し、そのシェアはすでに30%に達しています。多くの日本企業から高い評価を集め、OEM先はすでに8社、販売チャネルも増加の一途をたどっています。トレーニングセンターの設立、工場、R&Dセンターの新設計画もすすみ、まさに飛躍の時を迎えています。



■応募■

レジュメをご郵送下さい。内容は以下の項目を記載してあれば書式自由です。追って詳しい会社資料などを含め、連絡致します。

項目：①氏名、②現住所、③電話番号、④出身高校、⑤高校卒業年度、⑥大学名、⑦専攻、⑧取得済学位、⑨取得予定学位、⑩卒業予定年月日、⑪日本での連絡先、電話番号
※⑪は日本人の方のみご記入頂ければ結構です。

■送付先及び問い合わせ先■

●コレクトコールによる問い合わせ歓迎します。

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TEL 415-496-6180 (Direct: Tim Johnston)



Nihon Sun Microsystems K.K.

日本サン・マイクロシステムズ株式会社

設立/1986年 代表者/代表取締役会長 デニス・M・オーリン 代表取締役社長 天羽浩平 資本金/4億円 株主/サン・マイクロ・システムズ・インコーポレイテッド 事業内容/コンピュータおよび関連機器の製造・販売・輸出入 事業所/東京・大阪・つくば・名古屋・厚木



Bloom County by Berke Breathed



The Merrimac Coup

by Jack Singleton
 Saturday, May 6, the Caltech Bridge Club sponsored a tournament in the Winnett Student Center. Although only three teams (thirteen people) participated, a good time was had by all. It was a close race between the team of Tien-Yee Chiu, Bill Cross, Kenny Horneman, Chris Hull, and Fred Upton, who ultimately came in second, and the team of Jim Bys, Jeff Goldsmith, Walter Hamilton, and Kevin Mayville, who eventually won.

One hand worthy of note between the two teams is below:

WEST		EAST	
♠ 63	♥ J6	♦ 765	♣ QJ9652
SOUTH		NORTH	
♠ AKQJ72	♥ Q43	♦ 109	♣ AK

At one table, Kenny and Tien managed to bid and make 6 Spades easily. After pulling trump, he lost the diamond finesse and then played the Ace and ruffed a third round. The three-three diamond break clinched the contract, because Kenny got back to dummy with the Ace, and pitched two hearts on the good diamonds.

At the other table, a rather unusual defensive play ensued: Jeff, declarer, pulled trump and then finessed the Queen of Diamonds, at which point Bill mistakenly played his King of Hearts instead of his King of Diamonds. Immediately realizing his error, he asked what the official rule was: he could play his Diamond King, but was required to lead his Heart King (which gives up a trick to declarer's Queen).

Notice the position at this point (Fred led the Queen of Clubs on the opening lead):

WEST		EAST	
♠ J	♥ 76	♦ J965	♣ J965
SOUTH		NORTH	
♠ J72	♥ Q4	♦ 10	♣ K

Declarer has already lost one trick, and must now win each of the others; he has six tricks, but cannot get to board twice to set up his diamonds. He was only in four spades, so the play was less costly than it might have been (he made five), but astute readers will by now have noticed that as the cards lie, he can still collect all of the remaining tricks. By playing out his winners in his hand, he will have the four of hearts and ten of diamonds in his hand, and the Ace and eight of diamonds in dummy. West's cards are at this point unimportant, but East will now have to become void in hearts, allowing declarer to take his four in his hand, or (if he keeps a heart) let his diamond suit come down to a Jack Singleton, thus allowing declarer to take his Ace and eight. This play, known as a squeeze, was overlooked by declarer (possibly because he was still laughing at the brilliant defensive play which had mistakenly taken place).

The lead of a king into the declarer's Ace and queen (allowing the queen to take a free trick) which cuts a vital link in transportation is known as the "Merrimac Coup", hence the title of this article. It is a play I have only seen in books. Until now. I have yet to see one of these performed on purpose.

what goes on

money

Submit announcements for *What Goes On* on forms available outside the Tech office (SAC room 40A) and in the copy/mail room (SAC room 37), or use a plain piece of paper. Send announcements to 40-58, or put them in the IN box outside the Tech office. Indicate the date(s) the announcement must run. Announcements for the current issue must be received by 5 pm Tuesday and should be shorter than 75 words. Announcements will be published as space becomes available and will be chosen according to size and interest to the Caltech community. Announcements for commercial events unrelated to Caltech will not be published.

A Taste of Hawaii

Come share a night of Hawaiian hospitality at the Caltech Hawaii Club's luau, to be held on Saturday, May 20 at 6:00 pm in Chandler Dining Hall. Enjoy authentic Hawaiian food and see some real "local-style" entertainment. Buy your tickets pre-sale: \$5.00 for Caltech persons, \$6.00 for non-Caltech guests. At the door it's \$8.00 for everyone. Contact John Kubodera (578-9768) at 132 Ruddock for more information.

Drop Day Looms Closer

Wednesday, May 24th, 1989 is the last day for dropping courses and changing sections.

Animated Cinematech

The Tournee of Animation is back. On May 21st (Sunday), 23rd (Tuesday) and 24th (Wednesday), Cinematech is proud to present the 21st International Tournee of Animation (1988). From Switzerland, Hungary, Brazil, Great Britain, Canada, Cuba, Holland and the U.S. comes the collection of 14 award winning animation shorts. Included are two of this year's Academy Award nominees for Best Animation Short, "Technological Threat" and "The Cat Came Back" (neither won, but they are still very good), the wonderful claymation mother Augusta (we have seen her cooking and feeding her kid) in "Augusta Kneading," Paul Driessen's "The Writer," and the 1987 Oscar's Best Animation Short "The Man Who Planted Trees." Please see Paul's wonderful review in this issue of *The Tech*.

The film will be shown in Baxter Lecture Hall at 7:30 and 10:00 pm. Admission is \$1.50 for everyone.

1989-90 H&SS Course Schedule

There have been some changes in the historical timing of certain humanities and social science courses. For example, some courses that traditionally have been taught in the fall will be taught in the winter and/or spring. In the interest of helping undergraduates plan their course schedules for next year, preliminary schedules of H&SS courses to be offered AY 1989-90 may be obtained in 228 Baxter.

Cinematech Goes Italian

On Saturday, May 20th at 7 and 10 pm, Cinematech will present the 1946 Italian film classic *Paisan*.

As in *Rome: Open City*, director Roberto Rossellini depicts the horrors which war has brought to his country in a statement that is understood and appreciated internationally. The film consists of six stories set during the Allied advance from Sicily to the Po Valley during WWII. Acted out by non-professional actors, one segment tells the story of an American soldier who allows himself to be robbed of his boots by an Italian boy when he observes the squalid conditions in which the children of Naples are living. Winning numerous international awards, this film represents one of the greatest achievements of the post-war Italian neo-realist films.

The film will be shown in Baxter Lecture Hall. Admission is \$1.50 for everyone. In original Italian with English subtitles.

Student Dental Plan Defunct

Safeguard has discontinued the type of individual dental plan which was being offered to students. However, anyone currently enrolled in the plan is eligible to receive services until their policy expires. In six weeks, Safeguard will have a new plan available to students, with services provided at 23 Safeguard-owned Community Dental Centers. The nearest CDC office is at 318 W. Colorado Blvd. in Glendale. We will put other ads in *The Tech* as information becomes available.

As an alternative, PCC Dental Hygiene Clinic offers cleanings for \$12, fluoride treatments \$1 and x-rays (full mouth \$10, bite wings \$6); x-rays must be prescribed by a dentist. Services are offered during the academic year, September-June, for ages 6 and older. Call 792-1827 for an appointment.

Also, the Pasadena Dispensary has a dental clinic. They offer a wide range of services and charge on a sliding fee scale according to income level. The basic cost for a check-up and x-rays is \$42. For an appointment call 397-5469.

Accompanist Needed

Mike Malcom, accompanist for the Women's Glee Club for two years, is graduating and the women need someone new to come rehearse with them three hours per week, beginning next fall. If you have keyboard experience and are interested, drop a note to the Women's Glee Club at Mail Code 2-58. (If you want more information about what goes on in Women's Glee Club besides singing, just ask Mike or Robin or Barbara's C and W, Ami, Pat, Cathy, Janelle, Carol, Anne, Helen, Pam, Jung-Ah, Elaine, Celina, Dee, Betty, Lucy, Rachel, Carmen, Chris, Jeannette or Kyu. Or phone x6260.

Asian Pacific Festival

The cities of Los Angeles and West Hollywood are joining forces with the Asian Pacific American Legal Center to present the 1st Annual Asian Pacific Festival & Culinary Carnival, May 20-21. The festival will feature Arts, Entertainments, an cuisine from various Asian-Pacific countries. If you're interested in having a booth, volunteering, or getting involved in cultural activities/entertainment come to room 64 or 38 in the SAC for more information and persons to contact.

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Caltech Art Show

Friday May 19th in Winnett Lounge, there will be an art show and sale featuring Caltech artists. Their work includes ceramics and paintings and drawings. The show will run during this evening. Please stop by and enjoy the works.

Filming the Titanic

The Friends of the Altadena Library present "Filming the Titanic", a presentation by Ralph White, photographer for *National Geographic*. The presentation will be on Friday, May 19 at 7:30 pm in the Community Room, Altadena Library, 600 E. Mariposa (a couple of blocks west of Lake Ave.).

The Caltech KASA

Stick around tonight at the International Fair for the magnificent Tae Kwon Do demonstration sponsored by the Caltech Korean-American Students Association. Bricks and boards will be flying all over the campus at 6:30 pm. You DON'T wanna miss this great live performance.

The U.C. Irvine KASA will host the 2nd Annual Night of Korea and Dance this Saturday, May 20 at 7:00 pm.

The Caltech KASA banquet will be held on Saturday, June 3 at 8:00 pm at the Buffet Palace in L.A.

For more info and reservations, contact Dong-Su Kim at x3772, or 568-9683.

S.M.E.R.S.H. in the Fifties

S.M.E.R.S.H., the Caltech Science Fiction Club's group of Full Moon Party-Goers, would like to welcome everybody to attend their next meeting on Saturday, 20 May 1989 in Catalina III (grad housing). We will be presenting *Forbidden Planet*, *The Day the Earth Stood Still*, and either *Invasion of the Body Snatchers* or *War of the Worlds*. Questions: Eric C. Johnson (578-9364) or Dave Confal (356-9111)

S.F. Author Signing Parties

For those of you who want to meet science fiction authors and/or get books autographed, Planet 10, at 79 N. Raymond in Pasadena, is having autograph parties. Octavia Butler will be signing her books on Saturday, May 20, from 2-4 pm, and fantasy author Mercedes Lackey (previously reviewed in *The Tech*) will be there on Saturday, May 27, also from 2-4 pm. No admission charge, and you don't have to buy copies of the books there to get them signed, but they hope you'll consider it..

Chamber Music Concerts

Thirteen small ensembles comprised of 50 students will present chamber music concerts this weekend. The first concert is tonight (May 19) at 8:00 in Ramo Auditorium, and includes music by Bach, Telemann, Bozza, Baccherini and Staech. On Sunday, May 21, an entirely different program will be presented at 3:30 in Dabney Hall Lounge. In addition to music for strings and piano by Beethoven, Haydn, Schumann and Dohnanyi, the Sunday concert will feature Martinu's "Revue de Cuisine," music for a ballet about kitchen utensils. Admission is free and refreshments will be served following the concerts.

Summer Position Available

Summer engineering intern position available at Teledyne Relays in Hawthorne. Prefer juniors, seniors, or graduate students in mechanical engineering. Responsibilities could be: microsectioning, data reduction, graphic preparation, writing specifications. Send resume or call Del Chun, V.P. of Engineering, Teledyne Relays, 12525 Daphne Avenue, Hawthorne, CA 90250, phone number 213-777-0077 (Del Chun is an alum, M.S. ME in 66) or call Bob Hamm, Personnel Director at x268.

Graduating Students

If you're interested in an explosive growth California company requiring representatives to sell discounts in travel, long distance phone calling, and merchandising, drop by Winnet Clubroom 1 on Monday, May 22, at 7:30PM. You can discuss your potential to earn six figures within the first year with two Caltech alums (Joe Cheng and Allen Gee). Call Joe Cheng in the evening at 213-379-3453 for more information.

Summer College Work Study

Information and applications for 1989 summer college work-study are available in the Financial Aid Office. If you are interested in summer college work-study, please submit the required application as soon as possible, but no later than TODAY May 19, 1989. Eligibility determination will be announced as completed applications are reviewed.

On-Campus Summer Jobs

The Career Development Center recently asked professors and administrative offices to post on-campus summer jobs with us. Those jobs are now being posted in the Career Development Center, 08 Parsons-Gates. If you're interested or have any questions, stop by our office, or call Carol at x6361.

Free Money

In its annual display of generosity, the Caltech Student Investment Fund will be giving away money to Caltech groups or clubs (grad or undergrad). Money is for equipment and durable goods, only. To apply, submit a written request to Randy Levinson, 156-29. For more info call x4978, or stop by one of our Wednesday meetings. Deadline is May 22.

J.F.C.S. Loan Fund

The Jewish Family and Children's Services has announced the availability of loan funds to help deserving and needy Jewish students who are residents of San Francisco, the Peninsula, Marin and Sonoma Counties. Students in all levels of undergraduate or graduate study are eligible to apply. For more information, contact the Financial Aid Office.

Scholarships On Parade

The Financial Aid Office has applications and/or information on the following scholarships. All qualified students are encouraged to apply. Our office is located at 515 S. Wilson, second floor.

The National Roofing Foundation is offering a \$4000 scholarship for full-time students enrolled in architecture, engineering, or other curriculum related to the roofing industry. Applications and information are available by contacting Aimee Anderson, Scholarship Coordinator, National Roofing Foundation, One O'Hare Centre, 6250 River Road, Rosemont, Illinois 60018.

The National Italian American Foundation offering various scholarship opportunities to assist Italian American undergraduate or graduate students. Deadlines vary through May.

The Automobile Hall of Fame is committed to contributing to the welfare of the industry by providing assistance to graduating students interested in a career in the automotive industry. Two programs, the Outstanding Scholars Program and the Hall of Fame Resume Bank, are designed to attract promising students. The deadline is May 31.

Water Fellowships

The American Water Foundation is seeking applicants for fellowships. Undergraduate and graduate students enrolled in a degree program such as civil or agricultural engineering, agriculture, geology, law, economics, or political science are eligible to apply. The deadline is May 31. For applications, contact the Financial Aid Office.

Ebell Scholarships

The Ebell of Los Angeles Scholarship awards up to \$2,000 paid in monthly checks, September through June. A few general requirements are that the applicant attend an approved college or university in Los Angeles County, the applicant's home residence must be in Los Angeles County, and the applicant maintain a 3.25 GPA. For more information on requirements contact the Financial Aid Office. Application and recommendations are due in the Financial Aid Office, TODAY, May 19, 1989.

Student Organization Funding

Student organizations applying for Alumni Association funding for 1989-90 must do so before June 15. Application forms are available at the Alumni House, 345 S. Hill Ave., or by calling Karen at x6593. Funding is approved by the Student/Faculty/Alumni Relations Committee of the Association Board of Directors. The awards will be made in the fall of the 1989-90 academic year.

CLASSIFIED ADS

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