



SOME SAY THAT KNOWLEDGE IS SOMETHING SAT IN YOUR LAP

THE CALIFORNIA TECH

SOME SAY THAT KNOWLEDGE IS SOMETHING THAT YOU NEVER HAVE - KATE BUSH

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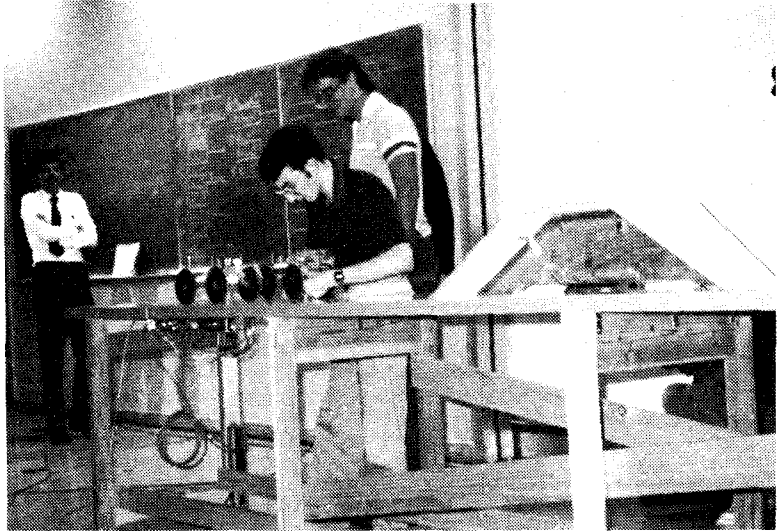


photo by Glenn Tesler

MEs prepare to race their machines in a test of mechanical ingenuity.

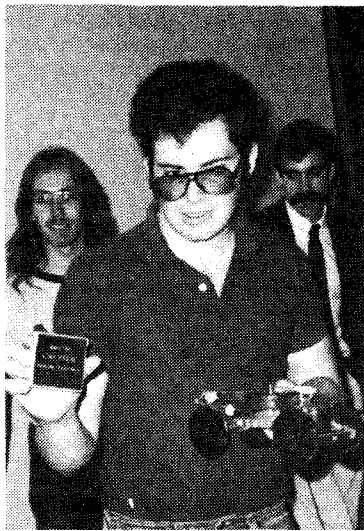


photo by Glenn Tesler

Dishevelled victor William Slate.

El Salvador: Our Foreign Policy In Their Country

by Michael Keating

"Whatever Washington wants done in El Salvador will be done in El Salvador."

Father Jon de Cortina gave a talk yesterday afternoon on the effects of U.S. foreign policy on the prospects for a negotiated peace in El Salvador. The talk, sponsored by the Caltech Y, took place in the Winnett Lounge.

A civil war has been waged in the Central American nation of El Salvador since 1980. The period from 1980 to 1982 made up the worst years for the nation. In that time, right-wing government death squads killed over 35,000 Salvadorans who were suspected of supporting the leftist guerrillas. The United States, according to Fr. de Cortina, is making a severe error in providing arms to the ruling government forces.

The stated goal of the United States is to see a strong democratic government in place in the Salvadoran capital. But no democratic government can, by definition, be strong without the support of the people of the country. And "before you can talk of democracy, you must have people eating." Fr. de Cortina sees a severe need for reforms in the distribution of land, and the availability and quality of jobs in agriculture and industry. Only when these needs are met can people's minds be turned toward thoughts of democracy.

To attempt to bring about democracy without first instituting economic reforms is "to try to erect a building starting with the third floor." Fr. de Cortina states, "We believe peace can come only through political dialog." But in answer to calls for dialog on reforms, the U.S. administration has sent "bullets."

Contadora Process

The Contadora peace process is one attempt by regional leaders to

bring peace to the Central American regions that have been in turmoil for the past decade. But the Reagan administration sees the Contadora process as favoring the ruling Sandanistas in nearby Nicaragua. Therefore the Contadora process is given little ear by the administration or any of the U.S.-supported regimes in Central America.

Furthermore, by ignoring the Contadoras and continuing to supply arms to the Salvadoran armed forces, "they are creating new enemies throughout Central America."

Fr. de Cortina said, "human rights have been improved because we don't have as many dead people in the streets." The continuation of military aid from the United States is contingent on this improvement. Fr. de Cortina suggests that measuring the quality of human rights based solely on the number of deaths is a narrow approach that results in misrepresentation of the leadership of the country.

Camps for the Displaced

Citizens of El Salvador who have been forced from their homes by the bombing that accompanies the civil war have few alternatives for a place to live. Some people move to the relatively peaceful capital, San Salvador, while others flee the country entirely (300,000 refugees live in Los Angeles). Still others move to refugee camps within El Salvador.

Fr. de Cortina has worked with these victims of the civil war who have been displaced to special camps. His presentation featured a slide show depicting the exodus of a particular group of the "displaced" from their camp back to their home near the small town of El Varillo. Nineteen North Americans

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The Gizmos Ride Over the Hill

by Amanda Heaton

"Object: To design and build a device which wins a series of contests. In each contest, the device will strive to combine speed and precision to out-perform an opponent device."

The ME72 design contest, led each year by Professor Eric Antonsson, inspires students' creativity. Students are given a "bag of junk," from which they must construct a vehicle that races forward, goes over a hill, and stops.

"He picked a lot of materials—many of the things were useful," junior William Slate, the winner of the contest, said. "The things you made the most use of were the stock materials—the plexiglass, mesonite, steel rods for axles... We got lots of little garbage, too. He wanted to give us a lot of materials to encourage our imaginations."

Despite the imaginative spark, however, most people didn't start work on their projects promptly.

"It took all my time for the three weeks before the contest to get the thing built and working," junior

Brad Solberg said. "But I guess that's typical."

"Towards the beginning I was figuring that I was going to be in a lot of trouble, because I was putting it off," Slate said. "Everyone was putting it off, except maybe a few people. I found that working in the shop on it took a lot more time than I expected."

Despite his procrastination, Slate said that he had one of the first working vehicles. Many of the vehicles failed to get over the hill altogether.

"There probably would have been more successes if we'd had more time between the races," Solberg said.

The lack of competition made the contest much shorter than it might otherwise have been, keeping the winning devices from having to prove their reliability.

"Even though Rathjen and Slate have won every time, because their competition hasn't been very stiff, they may be wearing their devices out," Antonsson said, just before the final contest. "There's a reliability issue here. There's a

limit to how many times you can run a device made out of plexiglass and mesonite and still expect it to work."

Although the contest was the main focus of the course, lectures did concentrate on other material.

"There was a lot of stuff about just generic mechanical stuff, but I don't know that it directly related to the contest," Slate said. "Some of us, including me, actually, made errors in constructing their vehicles because of assuming that the material covered in the class would help with the project."

Despite the low success rate, students said they had fun and learned a lot.

"You learn a lot about working in the machine shop, managing your time," Slate said. "It was designed to teach the design process, not just design."

"Most of the time it was fun," Solberg said. "When I had to do 60 hours to get it done it wasn't fun, but most of the time it was fun. He could have made it a lot worse by doing something that wasn't intrinsically fun."

Brainy Beavers Attack Putnam

by Huy Cao

It was a wet Saturday morning, but over 30 brave math students toughed the weather and went to Baxter to take the 47th Annual Putnam Math Competition. Armed with only pencils and erasers, the students confronted what is perhaps the toughest collegiate sport of all.

So how tough is the Putnam? It's so tough that in the past, out of a possible 120 points, the median score has been two! The mode (most common score) is worse, zero!

Caltech has placed first in 9 of the 46 previous contests, behind only Harvard, which has 11. But whereas Harvard dominated in the '50s, Caltech has dominated in more recent times. Since 1970 Caltech has received at least honorable mention every year but once.

But let's go back to Baxter, shall we? Math students, disciplined in the most rigorous of all sciences, don't believe in good luck charms and such nonsense. But just in case, Steve Rosenberg (who asked not to be identified) brought a voodoo

doll of himself and pierced its head everytime he had to think.

Steve, who is more (or perhaps less) representative of many students there, characterized the math test as "fun." And what, I asked him, would he say is "fun"? "The problems I could do were fun!" he exclaimed.

This reporter didn't find the test too fun. I took the test, as any good reporter would do. I looked at the first question, then at the second, and eventually concluded (by the method of induction) that the test was darn hard!

As any good reporter would do, I keenly observed the Putnam test takers. It was fascinating! One student worked furiously, another thoughtfully rubbed his chin, and another stared at the apple juice in front of him. Putnam watching is very interesting, and perhaps rivals chess as a spectator sport.

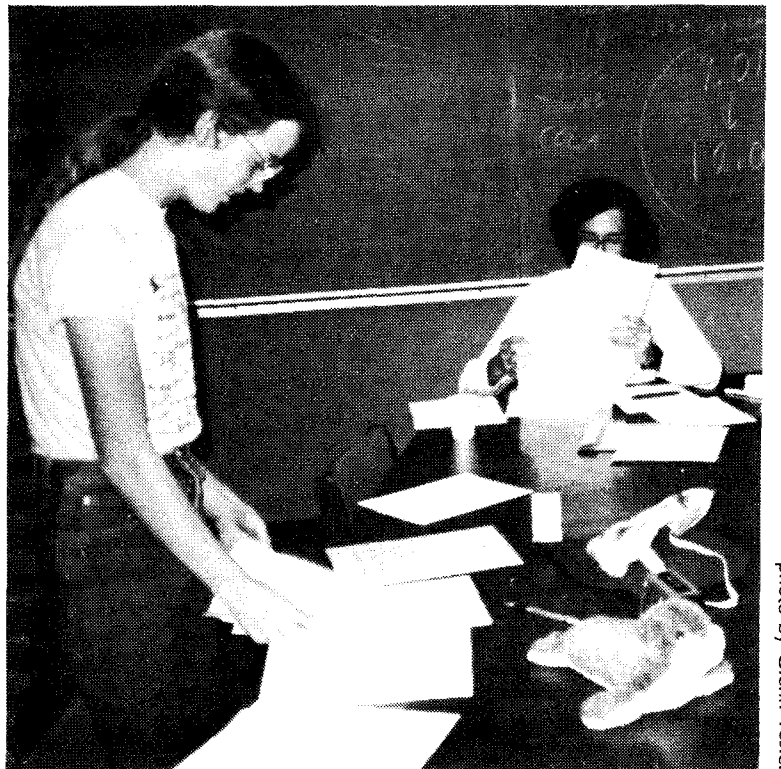
How did others find the Putnam? "I went to Baxter, saw a sign that said 'PUTNAM TEST HERE,' and that's how I found the Putnam." Another test taker who would only identify himself as "Mr. Oiler"

said that he found the test spiritually rewarding.

Theron Stanford, like many others, views the test as a special occasion. Despite the early morning drizzle, he wore his best suit to take the test. Why? "I was dressed to kill," he is rumored to have said.

Junior Leland Brown, sophomore Stanley Chen, and frosh Darien Lefkowitz officially represented Caltech. Their rankings will be added up to arrive at the team score for Caltech, and the school with the lowest score will come in first place.

"Picking the team members was not an easy choice," said Manager Wilson. "The choices were based on both past performance and recommendations by their math instructors. However, I'm ultimately responsible for the choices." The process of picking is difficult, as evident last year when Caltech's top scorer made the top five nationally, and yet wasn't chosen to represent Caltech. The choice is infinitely easier from hindsight!



Darien Lefkowitz, Laura Anderson, and the Seal of Approval at the Putnam.

photo by Glenn Tesler

AIDS Awareness—

Should You Take the Test?

by Bruce Kahl
Third in a Series

Currently available at the Health Center for about forty dollars per test are the AIDS antibody (HIV or HTLV-III) assays. These are known as the ELISA and Western Blot tests and when used together provide highly reliable indications of whether the individual being tested has been exposed to the HIV.

Should you have either or both of these tests? If you are thinking of having the testing done, a number of points bear consideration: your actual risk of exposure to the virus; your ability to tolerate the anxiety associated with being tested; proper interpretation of any test results; and appropriate follow-up if your tests are positive.

Risk Groups

The American Red Cross and the U.S. Public Health Service have listed several groups which are at higher risk of exposure to the virus than the general population and therefore should avoid donating blood. These groups are: ① Anyone with signs or symptoms of AIDS or ARC; ② Males who have had sex with more than one male since 1977; ③ Males whose male sex partner has had sex with more than one male since 1977; ④ Past or present abusers of intravenous drugs; ⑤ Hemophiliacs; ⑥ Sexual partners—both male and female—of persons in these groups.

If you are a member of any of the above groups and are concerned that you may have been exposed to the HIV you might well consider having a test for the antibody. What the test tells you will be discussed below. Again, you should be reminded that exposure to the virus does not come casually: you must have had intimate contact with an infected individual to contract it.

Anxiety

Deciding to have the test for the HIV should not be a lightweight exercise for anyone. Especially if you think you might test positive you should consider the impact of knowing this actuality on your own psychological state. If you tend to worry a lot in general, you might

be better off not knowing than finding out. For many people this approach has been the path taken, and up until recently it could unequivocally have been called the wisest path, since no hopes for treatment were available. Now that some medications are showing promise as treatments, an individual in a high-risk category might want to know of his or her status so that further evaluation of his or her situation could be pursued.

In any case, if you are concerned about this issue you may request a consultation with me, Nurse Practitioner Lori Mulvaney, or Dr. Gregory Katabgian at the Health Center. The test is done anonymously; no one else will know except for the person ordering the test for you. If you wish complete anonymity, you may be tested at the Gay and Lesbian Community Services Center of Los Angeles, located on Highland Avenue in Hollywood. There the testing is free and is done entirely by code number of your own choosing; no names are used at any point in the process. A disadvantage of that route is that you must wait two weeks to get test results; at Caltech the wait is about three days.

Significance

What does the test show? Very simply, it is a measure of antibody response to infection with the HIV. It is not a test for AIDS or ARC and does not even indicate there is a live virus present in the individual being tested. The incidence of false tests—positive and negative—is very low, around 1-3% for false positives and much less for false negatives. The general clinical rule of thumb is that in a member of a high risk group a positive test is considered true.

Antibodies to the HIV take at least four weeks, and may take up to six months, to develop. Therefore, an individual who has been exposed to and is carrying the virus may still test negative for the antibody. If you are in a high risk group, therefore, you should not use a blood bank as your means of finding out whether you have been exposed. If you have recently been exposed to the HIV but test negative for the antibody, your blood will get into the bank pool

and may well infect its recipient. Also, although blood banks are required by California law to protect anonymity of test results, in practice this may be more difficult since names are attached to blood samples.

Follow-Up

If a test result from the ELISA (Enzyme Linked ImmunoSorbent Assay) is positive, it should be double-checked with the Western Blot test for the antibody. If that is also positive, the tested individual may assume he or she has been exposed to the virus. What this may mean in terms of active infection in that individual can only be determined by further testing of various sorts. With this situation an individual would be best served by a physician who is well-acquainted with the HIV work-up protocols and who preferably has some experience treating people with the infection.



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LETTERS

I Know What I Like...

To the Editors:

The administration, I fear, is painting itself into a corner with its renovation policy concerning student art and graffiti. "No painting" is at least clear; "paint anything you want in these alleys, but nothing in those" might well be the start of a negotiation; "paint only on removable panels" could be a practical solution, but "we know the difference between graffiti and artwork" sounds like an interpretative mess for everyone concerned.

What criteria provide the basis for such a distinction? Certainly not verbal content, as the now classic work of Sonia and Robert Delauney demonstrates. And not crudity. Indeed, since the contemporary art world recognizes "graffiti art" as a genre, there may be no clear distinction to be made at all. I don't much care for "graffiti art" myself, but issues of taste are hardly the point.

Overseeing the proposed distinction would surely be unpleasant for everyone involved. Would the administration permit "obscene" and politically "offensive" images and words if the MOSH-of-the-moment considers the colors tasteful and the over-all design well-drafted? Would jarring or psychedelic colors or crude design be acceptable if the content appears banal? Can the administration really be volunteering to act as aesthetic censors?

I suppose we should reserve

final judgment, though, until we can read the forthcoming *Administrative Guidelines for Distinguishing Art from Graffiti*, which will surely be necessary to protect First Amendment rights and to provide intellectual rigor and consistency for a new venture like this one. While those guidelines are being drawn up, we'll have to do provisionally with "I don't know much about art, but I know what I like."

-John Benton
H & SS

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ENTERTAINMENT

Film Review—
A Trek Evening With Old Friends

In the 20th anniversary year of the television show Star Trek, it's only appropriate that its latest reincarnation be so warmly reminiscent of the series. As the fourth Star Trek film, *The Voyage Home*, demonstrates in many ways, you can go home again.

The Voyage Home concludes a trilogy which began with *The Wrath of Khan* (1982) and continued in *The Search for Spock* (1984). Three months have passed since the successful resurrection of Spock in the previous film. The crew of the late U.S.S. *Enterprise* have voted to return to Earth in their captured Klingon vessel and face the music. But en route, they receive a startling warning from Earth: a mysterious probe is beaming an undecipherable message at the oceans, using an "unknown" form of energy so powerful that its side effects threaten to end life on the planet.

Mr. Spock's analysis of the message shows that humans aren't the intended recipients at all—it's meant for whales. Unfortunately, whales have been extinct for over two hundred years, since the early 21st Century. Over Dr. McCoy's strenuous objections, Admiral Kirk takes his crew back in time (using the method established in the TV episode "Tomorrow Is Yesterday") to find a pair of humpback whales and bring them back to the future.

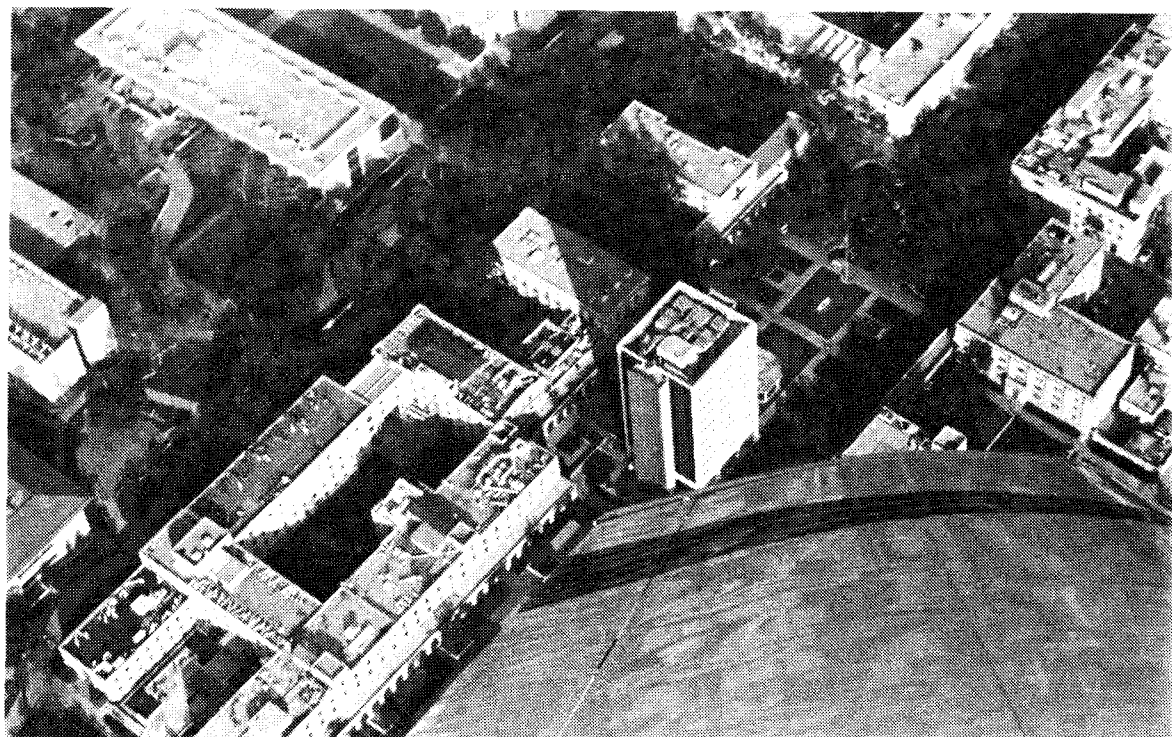
Compared with the three earlier films, *The Voyage Home* was written and directed with a lighter touch in mind. While the serious issue of whales and their

threatened extinction, and the deadly (but fictional) alien menace, are handled in a straightforward manner, much of the dialogue and many of the crew's adventures in the "primitive, paranoid" 20th Century are designed for humorous effect. Chief Engineer Scott's encounter with an "antique" MacIntosh computer is classic.

While many former *Enterprise* crewmembers (Chapel, Rand, Lt. Saavik) make brief appearances, most of the film is focussed on the seven series regulars. The result is as relaxing as spending an evening with old friends. The main outside influence comes from Gillian Taylor (played by Catherine Hicks), a 20th Century marine biologist who grows suspicious of Kirk's interest (and Spock's mind-meld) with her beloved whales. Hicks brings a spunky enthusiasm to the role, showing that intelligence, beauty, and caring are not mutually exclusive.

As entertaining as this film is, there are some minor points to contest. Although some of Star Trek's science has always been in either the improbable or unproven categories, scientific accuracy was highly prized by its creator. Thus it was a little disappointing to see moving shuttles, apparently rocket-powered, decelerate instead of maintaining their acquired velocity when the alien probe causes Spacedock to "lose all power." (But perhaps it absorbs momentum, too.)

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Get Your Feet Off the Ground

by Steve Bard

"Flying is a completely absorbing endeavor... It requires all your concentration, and in doing so, it gets your mind off of problems. It's a beautiful experience," says Steve Philipson, President of the Aero Association of Caltech.

AACIT, also known as the Caltech Flying Club, has four planes and about sixty enthusiastic members. Two of the planes are two-seater Cessna 150's, popular as training aircraft, and the other two are four-seaters, a Piper Archer and a Cessna 172 Cutlass. AACIT's primary purpose is to provide a means for the Caltech community to experience the thrill of flying small, highly maneuverable airplanes. AACIT has a strong student program as well, through which aspiring


aeronauts can receive competent instruction.

An airplane has many recreation possibilities. Some Club members like to fly out to Catalina island for lunch, or use the planes for vacations in places which take a long time to reach by car. Philipson once took a trip around the United States, flying North to Seattle, then East to New York, South to Florida, and back to Los Angeles. He calls it one of the most memorable experiences of his life, saying, "you can pull up in a place that is at the end of the world plus one and there are people there that are delighted to see you. It's wonderful." Philipson says that his 'round-the-U.S. trip gave him a new perspective on how big this country is and what it consists of. The only drawback to him is that

ever since he began flying, he hates to drive.

The Caltech Flying Club was started in 1964 by a group of Caltech students majoring in applied aeronautics, with one donated airplane. The club grew over the years to its present size of sixty-odd members. While most of the members are from JPL, the club is open to any member of the Caltech community, and would like to see more Caltech students join. As for cost, well, as Philipson says, "it's not cheap to learn to become a pilot." But by joining the Club, many of the costs are reduced drastically. Flying time only costs one-third as much on the Cessna 150s owned by the Flying Club as it would on "Hobbs time" (the standard), which means that with the

continued on page 5



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The Outside World

Student Protests in Paris Worst in 18 Years

by Huy Cao

Students in France started three weeks ago to protest a bill that would give French universities freedom in choosing their students. The protest started with a "picnic-like atmosphere" but became much more violent earlier this week.

Of the over 200,000 students who protested, about 50 were injured. One student died, resulting in increased protest and the resignation of Alain Devaquet, the minister of higher education who had written the bill.

Prime Minister Jacques Chirac responded by saying that he wouldn't consider withdrawing the legislation. But citing the risk of

increased violence, he later withdrew the legislation anyway. The student movement has been the most severe test to Chirac's nine-month old Government.

As France's system of university education stands now, all high school students who wish to enter college must pass a difficult exam. Once they pass it, the students can attend any of the 70 "general-purpose" universities they choose. The system doesn't allow for the universities to be too independent, and the new bill was designed to reverse that. It would have allowed an academic hierarchy to form among the universities.

The Contras In Honduras

by Hasok Chang

Nearly 1,000 Nicaraguan soldiers crossed into Honduras in pursuit of the rebels last weekend, setting off battles with Honduran forces. U.S. Army helicopters were used to ferry hundreds of Honduran troops to the border area. The Nicaraguan government denied the incursion. Some sources indicate that there have been 5 similar incidents by Nicaraguan forces in the recent 7 months. On Monday, while the fighting was quieting down, two Nicaraguan towns near the Honduran border were bombed by unidentified combat planes. According to the residents and the government, the bombs were targeted at an airstrip and some other military facilities, and seven soldiers were killed. The Nicaraguan military charged the U.S. for directing the attack through the Honduran forces; Javier Carrion, the regional commander, told reporters, "As far as

we know, the counter-revolution [the contras] doesn't have any combat planes." The U.S. asserted that the Honduran Air Force conducted the bombing independently; Honduras insisted that there had been no bombing.

Meanwhile, the contras have agreed to the Honduran demand that they move all their troops out of Honduras by spring. Many view this development as an indication of the erosion of the regional support for them. Recent disclosures also show that nearly all the purportedly private money that they were able to raise this year had come from the Iran arms sale or contributors who were urged by the Administration, including the King of Brunei. It is expected that the failure of the contras will create serious pressures on the Administration to adopt a more explicit policy, that is, to accept a peace treaty or to invade. «THE N.Y. TIMES»

News In Brief:

* The Defense and Foreign Ministers of Afghanistan's Government were replaced, two weeks after President Babrak Karmal also resigned. The moves were designed to give the Soviet-backed Government a less ideological image, according to commentators in Islamabad. —HUY CAO

* Defense Secretary Caspar Weinberger announced that 28 European companies will take part in "Star Wars" research. The contracts could unite NATO behind the Strategic Defense Initiative, according to Weinberger. —HUY CAO

* Damascus-based Palestinian guerrillas continue battling the Shiite militia in Lebanon, despite the Syrian President Assad's recent efforts to put them under control. Their objective is to re-establish a military and political base in Lebanon, which was destroyed by the Israeli invasion in 1982. This latest round in 11 years of civil war claimed more than 550 lives since the end of September and left 3,000 homeless. —HASOK CHANG

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Mrke-Bude



Demon Brooder of the Sewer!

The Inside World

Fleming: Well, well, well. The boys have finally lost their swimming prowess. Of course, I guess that is easy to sympathize with, after seeing the speed and strength of the New and Improved Fleming Swim Team. And according to the head fish, Randy Brown, "it just keeps getting better." Not that the boys didn't put up a good fight. I mean, what's a battle without a couple of double-secret IHC meetings, anyway? Oh well, "all's fair..." I guess.

There might be a social event this weekend, although one would never guess by looking at the Social Team. Oh well, if there is you can be sure it will be good, so be there. There was an excomm last night.

Everybody is leaving next week, so Merry Christmas, etc., etc. Sean Trabosh is now a Man, and if I smell another one of those rancid cigars anytime in the future, well, I don't know what will happen, but you can be sure it won't be pleasant.

Brian Daniels' birthday was last Tuesday, breaking in that venerable tradition for this year. Somebody told me that there are a lot of frosh birthdays scattered throughout second term. Wouldn't surprise me a bit.

Until next term...

-Al Fansome

Lloyd: Christmas Letters to Uncle Kanky:

Dear Uncle Kanky,

Does Santa use any other reindeer besides the ones mentioned in "The Night Before Christmas"?

-Brian, age 6

Dear Brian,

Why certainly, but the poet had trouble finding rhymes for the other reindeer: "Gasbag", "Wanker", "Pinhead" and "Anthrax".

Dear Uncle Kanky,

What are some Christmas traditions in other places?

-Chandra, age 4

Dear Chandra,

In Caltech's South Houses, for example, students place their shoes outside the door on Christmas eve for Santa to leave presents in. Unfortunately, Santa simply steals them and sells them on the street for a few extra bucks.

Dear Uncle Kanky,

Why doesn't it snow here in Southern California?

-Anh-Tuan, age 5

Dear Anh-Tuan,

It's too hot.

Dear Uncle Kanky,

What does Santa do when he's not at the North Pole?

-Chris, age 3

Dear Chris,

He actually is in charge of the food service at Caltech under the pseudonym of "Gary". Little Hispanic elves serve as his kitchen help.

Dear Uncle Kanky,

Why does Santa use reindeer to pull his sleigh?

-Jim, age 5

Dear Jim,

Because the reindeer is one of the few animals that has not been hunted to extinction by the evil, bloodthirsty instincts of their worst enemy-Man.

Dear Uncle Kanky,

Who is Peter Cetera and how does he fit into the Christmas picture?

-Alvin, age 4

Dear Alvin,

Peter Cetera plays a prominent role in the Christmas story. Remember the three wise men who followed the star to Jesus? He was the one who brought the Myrrh. He later went on to a successful career as the lead singer of Chicago, and had many hits in the mid-'70s.

-Uncle Kanky

Page: Congrats Page Frosh on Phlegming frosh wash! But you upperclassmen really loused it up for us on Monday-don't worry phlegms, you'll get yours!

Congratulations Fleming on your swimming victory. Next time tell us beforehand if you're going to cheat.

Hey Benouche! Been cross-eyed lately? Too bad Richard Pryor's squirrel monkeys got to you. And Zimmerdude-if Benouche kept his ears clean our frosh wouldn't have had to douche you!

How spastic can you get over a set of dice? Ask Vito-his herculean display of machismo (couch out window) was impressive. Maybe he'll make it into the Mafia after all.

Mega "Shakespeare" Mgrdechian has enlightened us-a rose petal by any other name does not smell as sweet. His play was a smashing success. In fact, Dan Harrison (a butt-busting Darb) loved it so much he went and told the Deans and the MOSH just what a fantastic piece of literature it was (we believe he has taken it upon himself to nominate Mega for the Pulitzer). Hey Dan, you really would have loved the unedited version!

Riddle of the week: What's worse than a drunken Canadian throwing up at a bowling alley?

Answer: A drunk Aussie driving a Japanese Tonka truck through an American plate glass window (smooth move, mate!) Between the flyers and the window it look like James will make a great house president someday.

Between James, Vito, Roberts and some nameless Page studs with a baseball bat (and Jim Taylor's food) Page House should be reduced to rubble by the end of third term. Let's see if we can get Housing to buy us a new house.

Nurl quote of the week: "The best thing about a waterbed is that you can study on it in comfort."

-K. Hornyman (not living up to his name with that quote)

Inside World courtesy of Willie the Shakes & J.J.

PS: James-if there are any cumstains on my mattress when you return it, I'll pimp you against your will (?) on Santa Monica Blvd.

Ricketts: Well, boys and girls, looks like it's that time of month, I mean term, again. Free games in the house of shitty fustball (right, Messr. Cheung?), Wagner's Greatest Hits booming out at 500 watts right outside frosh doorways, and some very bright Boys driving Daihatsus about as well as they do anything else. Speaking of the Boys for a minute, Scurves were given some priceless advice by the biggest Boy of all, Vincenzo (a Ricketts Hovse Major Office holder), who said: *Son, you'll never get laid if you don't wear shoes.* To which the proper reply, of course, is: Well, at least not in Page House. Vito is living proof of what happens when you wear shoes in Page, so stay barefoot guys and gals.

In Scurvedom proper, the frosh this year have been a bit slow in catching on to the idea of closing the lounge doors, so the sophomores were so kind as to provide individual incentives for each and every frosh. Chagrined, the frosh retrieved their doors, and the lounge is a much warmer place now, thank you.

Alex Sukiyaki will have blue hair by Monday, or else Ulrich B-Plüg will beat him ten times in a row at eight-ball. Lisa's horny, Gonzo's trippin' along, Johnson will have the kick-bag up soon, and Dave Lee's got everyone by the balls. Sign up for TWBF. Dinner's over, so go away!

-Shithead #1 and Giggles

CALTECH
public events

NEW CHRISTY MINSTRELS
CELEBRATE THE HOLIDAY SEASON

Kick off the holiday season this weekend with the New Christy Minstrels. They will perform in Beckman Auditorium, Friday, December 12 at 8 p.m. Their program will include such holiday favorites as "Do You Hear What I Hear," "White Christmas," "Silver Bells" and "Silent Night."

Although the New Christy Minstrels can trace their heritage back to 1842 and Edwin "Pops" Christy's Minstrel Show, the later group performed their first show in 1961 at Los Angeles' Troubadour night club. In the 25 years since, they have produced three Gold Albums, made television appearances and world tours, and have performed before many heads of state.

CIT student prices for the New Christy Minstrels are \$8.75- 7.50; CIT faculty and staff prices are \$15.50-13.00 for advance sales and TECHTIX - half price tickets for \$8.75-7.50 - will go on sale today between noon and 4:30 p.m.; subject to availability and limit 2 tickets per CIT I.D.

For further information about the exciting Public Events scheduled this season, call campus ext. 4652. Good luck with finals and have a happy holiday season and term break!

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Flying Club

from page 3

club, a Cessna 150 only costs about \$9.50 per hour, rather than the standard \$30.00 per hour. There is no charge for the amount of time spent on stopovers, say, skiing at Big Bear Resort or eating lunch on Catalina island.

Jay Giezen, Lloyd RA, is one of the on-campus people who belong to the Flying Club. He is an excellent pilot, having just one more stage to complete before he can become a commercial pilot.

Jay says that it is the challenge of earning this certification, rather than the status, that he is interested in. Jay loves to fly, and would probably be willing to take up groups of students once in a while, sharing the costs of the flight.

Anyone who would like to get more information about flying at Caltech-if you want to just go up for a ride or if you would like to actually learn how to fly-can call Steve Philipson at 577-6619 or talk to Jay Giezen, Lloyd RA.

"Dormant" Southern End of San Andreas Could Shake Again

[CNB]—A Caltech geologist studying sediments broken by the San Andreas Fault in the Coachella Valley region of California has confirmed that this segment of the fault has generated several large earthquakes in the past 1,000 years and should be considered capable of doing so again.

In a paper delivered on Tuesday, Caltech Professor of Geology Kerry Sieh presented the results of a study of ancient earthquakes along the section of the San Andreas Fault that passes near Palm Springs in the Coachella Valley. In his research in the valley, done mainly over the last three years, Dr. Sieh excavated to expose ancient sediments broken by the San Andreas. The sediments had accumulated during the past 1,000 years at the shoreline of an ancient lake that has filled the Coachella and Imperial Valleys many times in the past several centuries.

In his studies, Dr. Sieh detected evidence of repeated rupturing of these ancient sediments by the San Andreas. He interpreted these ruptures as evidence of ancient earthquakes, and could date these earthquakes by carbon-dating of organic matter in the sediment.

His studies revealed evidence for at least four large earthquakes between 1000 A.D. and 1700 A.D. These occurred in the 11th, 14th, 15th and 17th centuries A.D. Reliable historical records confirm that there has been no great earthquake produced by rupture of this segment since at least 1850, said Dr. Sieh.

Although the data do not reveal the magnitudes of the prehistoric earthquakes, Dr. Sieh believes that the tremors would have been very severe, much larger than the magnitude 5.6 event that occurred near Palm Springs last July 8.

"The San Andreas Fault in this region has never received much at-

tention, mainly because of its lack of large earthquakes in historical times," said Dr. Sieh. "In contrast, the segments of the fault that ruptured in the 1857 and 1906 earthquakes have long been perceived as seismically hazardous.

"This study shows, however, that the historically dormant southernmost part of the San Andreas should also be considered an important source of future destructive earthquakes.

"While these findings do not prove that the southern segment of the San Andreas will fail soon, they do emphasize the seriousness of the hazard in the region," said Dr. Sieh. "This segment of the San Andreas produces a large earthquake at least once every 2 to 2½ centuries, and it appears to have been no less than 1½, and perhaps as many as 3 centuries since the last one."

According to Dr. Sieh, his studies revealed an average slip rate of at least 30 millimeters per year (30mm/yr) for the San Andreas Fault in the Coachella Valley between the years 1000 and 1700 A.D. In marked contrast, the fault has slipped at an average rate of only about 3mm/yr since 1700 and 2mm/yr since 1949. Therefore, strain appears to be building on this segment of the fault, he said.

If the fault last produced a great earthquake between 1700 and 1850, it is reasonable to conclude that from four to nine meters of potential slip has built up since then, said Dr. Sieh.

Dr. Sieh has studied ancient earthquakes along the San Andreas Fault since 1977, using excavation and carbon-dating techniques. His previous research revealed the frequency of great earthquakes on the San Andreas Fault near Los Angeles.

Dr. Sieh's research is sponsored by the U.S. Geological Survey.

WHAT GOES ON

Fun Stuff To Do Over Break!

from page 8

Research Associateships

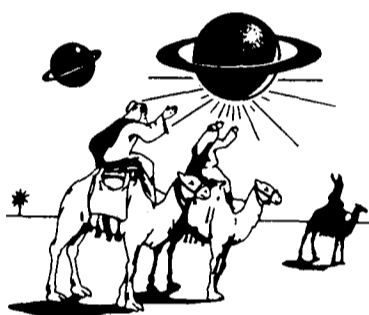
The National Research Council announces the 1987 Resident, Cooperative, and Postdoctoral Research Associateship Programs for research in the sciences and engineering to be conducted in behalf of 26 federal agencies or research institutions, whose laboratories are located throughout the U.S.

Approximately 450 new full-time associateships will be awarded on a competitive basis in 1987 for research in the sciences and engineering. Most of the programs are open to both U.S. and non-U.S. nationals, and to both recent Ph.D. degree recipients and senior investigators.

Awards are made for one or two years; senior applicants who have held the doctorate at least five years may request shorter tenure. Stipends for the 1987 program will begin at \$26,350 a year for recent Ph.D.s and be appropriately higher for senior Associates. A stipend supplement of approximately \$5,000 may be available to regular (not senior) awardees holding recognized doctoral degrees in those disciplines wherein the number of degrees conferred by U.S. graduate schools is significantly below the current demand.

Applications to the National Research Council must be postmarked no later than January 15, 1987 (December 15, 1986 for NASA), April 15 and August 15, 1987. Initial awards will be announced in March and April (July and November for the two later competitions) followed by awards to alternates later.

Information on specific research opportunities and federal laboratories, as well as application materials, may be obtained from: the Associateship Programs, Office of Scientific and Engineering Personnel, JH 608-D1, National Research Council, 2101 Constitution Ave., N.W., Washington, D.C. 20418. Phone (202) 334-2760.



Wise Internships

WISE, Washington Internships for Students of Engineering, is looking for a few good third-year engineering students. Students will study the roles of engineers at government hearings, as staff members of legislative and regulatory bodies, as lobbyists, as members of corporate staffs interacting with governmental agencies, and as representatives of professional engineering societies, standards setting organizations, or public interest groups.

In addition, each student will complete a project that will document a specific engineering-public policy issue, address topics of concern to the participating societies, and/or form the basis for technical papers and case studies to be disseminated by the sponsoring societies. There is a stipend and a travel allowance.

For application forms, write to:

WISE
American Society for Engineering Education
Eleven Dupont Circle
Washington, D.C. 20036.
Application Deadline, December 31, 1986.

Graphic Communication \$\$\$

Seniors who plan to attend graduate school and study fields related to the Graphic Communication Industry (mathematics, physics, engineering, etc.) or graduate students currently studying in that area are encouraged to apply for the National Scholarship Trust Fund Fellowship. Awards range from \$1,500 to \$3,000. Applications and further information are available in the Financial Aid Office, 12-63. Deadline is January 10, 1987.

De Karman Fellowship

Information regarding the Josephine de Karman Fellowship is available in the Financial Aid Office, 12-63, and the Graduate Office, 2-31. These fellowships are for seniors and third year or more graduate students for 1987-88. Grants are for \$3,000 for one year and are not renewable. For applications write to:

Fellowship Committee
Attn: Ms. B.J. Brown, Secretary
Josephine de Karman Fellowship Trust
P.O. Box 446, La Verne CA 91750
Application deadline is January 16, 1987.

Excellent Juniors?

For the second year in a row, *Time* magazine is initiating a nationwide search for 100 college juniors who excel in academics and extra-curricular activities. Called the TIME College Achievement Awards, the selections are a recognition of the nation's most outstanding college students.

Twenty winners will receive awards of \$2,500 each and their achievements will be showcased in a special promotional section of the April 6, 1987 campus edition of *Time*. Eighty merit finalists will receive \$250 each and honorable mention in the section. All 100 winners will be given first consideration for internships with *Time*, Inc. and other major participating corporations.

The 1986 *Time* College Achievement applications will be reviewed by a panel of regional judges under the auspices of *Time* magazine. In addition to academic excellence, the judges will consider exceptional achievement outside the classroom in such categories as community service, student government, journalism, entrepreneurship, visual arts, athletics, and the performing arts.

To qualify for the Awards, student candidates must be juniors enrolled full time in an accredited four-year American college or university. The deadline for the completed application is December 31, 1986. Winners and finalists will be notified by mail on or before March 31, 1986.

Applications are available at the Deans' Office or by calling 1-800-523-5948.

CIC Fellowships

The Committee on Institutional Cooperation Minorities Fellowship Program is offering 40 fellowships to members of under-represented minority groups seeking PhD degrees in a wide variety of fields in the areas of Social Sciences, Humanities, Sciences, Mathematics and Engineering. The member universities are the midwestern Big 10 plus the University of Chicago. (If you don't know who's in the Big 10, find a sports section—this is football season).

Each CIC Minorities Fellowship is for four academic years. For 1987-88, each award will pay full tuition plus a stipend of at least \$7,000. The eligibility is kind of complicated, so contact them as early as possible. Application deadline is January 7, 1987. Write: CIC Minorities Fellowships Program, Kirkwood Hall 111, Indiana University, Bloomington, IN 47405, or call toll free (between 6 am and 1 pm Pacific time) (800) 457-4420.

More Earthquakes - Seafloor Explosions May Cause Quakes

[CNB]—Geophysicists have confirmed the existence of a new way for the earth to produce an earthquake—by an immense explosion in the sediments beneath the seafloor, triggered by a volcanic eruption. The researchers outlined their discovery in papers delivered December 12 at the fall meeting of the American Geophysical Union (AGU) in San Francisco.

The scientists were Hiroo Kanamori of Caltech, Goran Ekstrom and Adam Dzierwowski of Harvard University, and Jeffrey Barker of Pasadena, California-based Woodward-Clyde Consultants.

The discovery began with a mysterious earthquake that occurred near Tori Shima, Japan, on June 13, 1984. Although the tremor was only a magnitude 5.5 on the Richter scale, it produced tsunamis, or tidal waves, that were disproportionately large—about 130 to 150 centimeters high at a distance of more than 100 miles away from the epicenter.

In examining the seismograms of this earthquake, Dr. Kanamori detected other abnormalities in the radiated waves that set this earthquake apart from those caused by fault movement in the earth's crust.

Because of high-quality digital recording stations now deployed throughout the world, Dr. Kanamori was able to analyze the source of the earthquake with far greater precision than ever before. Working with Drs. Ekstrom, Dzierwowski, and Barker, he developed a detailed scenario of how this mysterious earthquake occurred.

"When we looked at the data, we found that the pattern of seismic radiation from this event was totally different from any other earthquakes," said Dr. Kanamori. "The event could not have been due to faulting; the best explanation is that there was a sudden intrusion of magma into the oceanic crust, and that this molten rock reacted with the water in the sediment. The magma rapidly raised the temperature of this water, causing it to explode sideways within the sediments."

According to the scientists' calculations, the injection of magma, which would have taken about 20 seconds, blasted about three tenths of a cubic kilometer of magma-water mixture into the sediment beneath the seafloor. By contrast, the 1980 eruption of

continued on page 7

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SPORTS

Beyond War



Pass Me... Make My Day—Sam C. Eastman, graduate of the Caltech class of 1931, was the featured speaker at the dedication of the new track and field. Eastman played on varsity football and track teams coached by Fox Stanton, to whom the track is dedicated.

Life College Cagers Win A Heartbreaker

by Lloyd Free

Yes, Caltech basketball is underway once again. After an impressive first game victory over the Caltech alumni, this year's Beavers have experienced a tough six-game stretch in which they've come up on the losing end.

Wednesday night they played an experienced, good-shooting Life College ball club that had beaten Caltech 109-65 earlier this season.

The first ten minutes of this game looked like a replay of the last blowout, as Life surged to a 17-8 lead. However, under the leadership of Coach Mike Poizner the Beavers battled back to within striking distance and ended the half down by only three points, 30-27.

Freshman Jason Karceski led all Caltech scorers at half with seven points. Ed Zanelli also played a key role in Caltech's first-half comeback, contributing five points and leading the team in assists and steals.

Caltech's main problem in this half was the lack of effective rebounding, especially on the offensive end. Senior Bill Gustafson was the only person able to hit the boards effectively in the opening 20 minutes.

In the second half things changed dramatically. First of all, Caltech's tough zone defense shut down Life's high scoring Updike

brothers, Sam and Mike.

Secondly, Caltech's shooters—Ed Zanelli, Jason Karceski, and Randy Ralph—shot well at the start of the second half. And thirdly, Zanelli, Brett Bush and the inspired Bill Gustafson, crashed the boards on both ends of the court to come up with many key rebounds.

All of this added up to a stunning 14-point turnaround, as Caltech forged an 11-point lead midway into the second half.

But the Life College cagers are a veteran basketball team, and they showed their experience by battling back to retake the lead. A stagnation of the Caltech offense combined with the Beaver's ice cold shooting to allow Life to get back into the contest.

Thus the Life team were ahead by a few points with two minutes remaining, but the battling Beavers hit key baskets down the stretch to leave them tied with Life at 56-56 with 19 seconds remaining.

The Big Ending

Life had the ball and took two successive timeouts to plot their strategy. With 19 seconds left on the game clock and eighteen seconds left on the shot clock, Life exhibited perfect execution in wasting all of the shot clock time.

Their point guard, Steve Abrahams, sent in a picture-perfect outside jumper with just two seconds remaining. Down 58-56 with just one second left, Caltech tried a last-second desperation alley-ooop to Bush. The attempt ended in failure.

Thus Caltech lost their sixth in a row. But the Beavers still managed to hang their heads high. They had battled to the final second against an opponent that had destroyed them in a previous game.

It is certain that this improving young Caltech team will register their share of wins in the weeks to come. Their next game is next term on Monday, 5 January, at 7:30PM on the home floor. Write that down on your calendars, and *Be There!*

El Salvador

from page 1

accompanied the displaced on their journey.

Prior to setting out on the trip to El Varillo, the group got permission to travel from the ranking military officer in the region, and they sent a letter to Salvadoran president Jose Napoleon Duarte informing him of their intent to travel back to their homes.

The travelers were the victims of several searches by the military police on the road to El Varillo. Just outside the homes in El Varillo, the military told the North Americans to separate from the people who were returning home. When, at the request of the displaced, the North Americans refused to cooperate with the authorities, they were arrested.

At a military jail a U.S. embassy official told the North Americans that they had just interfered with a major military movement. He then arranged for them to be bussed to neighboring Guatemala for return to the United States.

Fr. de Cortina said that the displaced are now living in the El Varillo area as they had planned.

Caltech students, faculty and staff are cordially invited to attend the "Spacebridge of the Americas" 1986 Beyond War Award Ceremony in Beckman Auditorium on Sunday, December 14, 1:30-4:00 pm.

The fourth annual Beyond War Award will be given to the Contadora Group of nations—Colombia, Mexico, Panama and Venezuela—in recognition of their unrelenting efforts at finding non-violent resolution to Central American conflicts.

The ceremonies will originate in San Francisco, and will link these nations' capitals and four other U.S. cities together by television satellites. We can share this historic event here on the Caltech campus, one of hundreds of "downlink" locations throughout the Americas.

Tickets (\$2.50 for students, \$10.00 for others) are available at the Caltech Y Office in Winnett (x6163). For additional information, contact Hasok Chang (792-2659).

Earthquakes

from page 6

Mount St. Helens involved about a cubic kilometer of material. That eruption was estimated to have the energy equivalent of about 500 Hiroshima-sized atomic bombs. At a temperature of 1,000 degrees centigrade, this magma would have quickly superheated water in the ocean sediment, increasing its volume 30-fold, causing the explosion that lifted the seafloor over a large area. Such an event is possible said Dr. Kanamori, because the epicenter of the earthquake was near the Bonic volcanic arc, about 500 kilometers south of Japan.

Star Trek IV

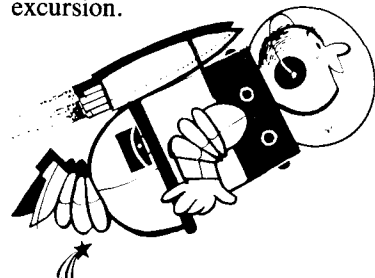
from page 3

An imaginative time-travel sequence by ILM Computer Graphics is puzzling and rather too artsy-craftsy. The extended bathtub scene at the end could easily be cut down, allowing time for a more leisurely denouement.

Uhura seems to end up with little to do in this film; even when she and Chekov go in search of "nuclear wessels," the Russian gets the meatier part by far. After being left behind on the final voyage of the *Enterprise* in *Search*, some balancing would seem to be in order for the next film.

And there will be one, with William Shatner as director. Initial box office figures indicate that *The Voyage Home* will be one of the season's hit movies. Now that the necessity of picking up the previous storyline appears to be over, the next Star Trek movies may well be individual adventures, like the James Bond films. And perhaps they'll finally drop the Roman numerals, too (no, there is no truth to the rumor that human-looking, mice-eating alien lizards will be the foe in *Star Trek V*).

If you're a Star Trek fan, you liked this film (it's been out for 16 days; you've already seen it, right?). If you've never seen the TV show or the earlier films, the humor and warmth in this film will make it an enjoyable holiday excursion.



UCLA and UCI Top Caltech Hockey

by Jason

The hockey team lost two close games this past week and a half. Last Wednesday Caltech played U.C. Irvine in what was basically a controlled brawl. The two teams combined for 22 minor penalties.

Special mention must be made of "Potato-head" Petillo who single-handedly accounted for ten of Irvine's 28 minutes of penalties. That means that this particular asshole spent over 25 percent of the game in the penalty box. It is hoped that Irvine will take him back to the zoo

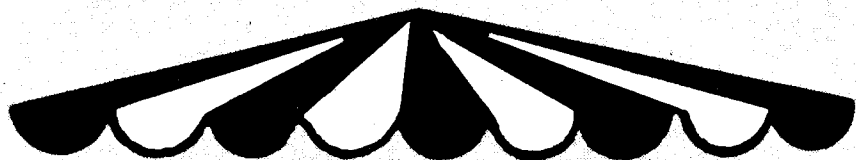
before the next game.

Despite out-shooting their opponents, Caltech was once again out-scored, 6-2. Jim Bower scored both Tech goals, with Mike Freeman and Jim Toth both getting credit for two assists.

In their match two days ago, Caltech played Division I UCLA very close for two periods. In the first two periods Caltech out-shot UCLA and trailed in the score only 3-2. Jean Pierre Bardot scored both goals with Bower, Freeman, and Jim Hutchinson getting assists

In the third period UCLA put the game away with a short-handed goal. Peter Dowd took an incredible pounding at goalie from the hard, accurate shooting of the UCLA defensemen but he made some incredible saves to keep Caltech in the game as long as possible.

UCLA ended up winning 6-2 to end the first half of the Caltech season on a down note. Caltech opens the second half of the season against USC in January. See you then.



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WHAT GOES ON

Announcements for *What Goes On* must be submitted on an announcement form (available outside 107 Winnett) or on a plain piece of paper. Please indicate the date(s) you want the announcement to run. Send announcements to 107-51, or put them in the mail slot in the door of 107 Winnett. Announcements must be received by the Tuesday prior to publication.

SKIING!

The Caltech Ski Team will be having its first meeting of the year on Monday, December 15, at 9:30 pm at the Y Lounge. The ski team will be going to seven races this year, mostly on weekends during second term, to race against 15 other SoCal schools. The races provide a lot of interscholastic camaraderie, and most of the racers have a friendly, fun attitude rather than one of fierce competition. All undergraduates with intermediate or higher level skiing skills are urged to attend the meeting. Those skiers unable to attend the meeting should contact Mickey Spiegel at 578-9652.

Room and Board Changes

All undergraduate students living in the student Houses, off-campus houses, 150 S. Chester, 1170 E. Del Mar or Marks House will be billed for second term room and board charges on their December student account statement. In addition to a full term room charge of \$539.28 for on-campus houses and off-campus houses, or \$615.72 for 150 S. Chester and 1170 E. Del Mar, or \$588.00 for Marks House, the Housing Office will assume students will remain on a board plan similar to the one they chose for first term, and students will be charged accordingly. For example, if you are currently on a lunch only plan, you will be billed for lunch only for second term. Students who wish to change their meal plan for second term must do so by the end of the first week of second term (by Friday, January 9) in the Housing Office.

For questions or concerns with your room and board charges or your student account statement, feel free to come into the Housing Office and speak with Jeanine Conneally.

No RF's On Heidi's Couch

Any attempt by the immature frosh and sophomores of Ricketts Hovse to include Heidi's Couch in an RF will result in severe punishment by Heidi Anderson.

According to Bunny . . .

The Student House Maintenance Committee which meets today, December 12 at 3 pm, will be meeting in 104 Watson. OK?

Return little t's!

Now that everyone's had a week to pick up a little *t* from their favorite house lounge, please return the boxes in those lounges, and any extra little *t's* they may contain (and even any extras lying randomly about) to the Student Publications—the *Tech* Office—107 Winnett—sometime soon. (Just outside the office is fine, too.)

After copies have been sent to advertisers and others, the remaining little *t's* will be made available in the Master's Office for anyone who hasn't already got a copy of God's Finest Student Handbook.

Model U.N. Meeting

There will be a meeting of the Caltech Model U.N. Club from 9:00-10:00 pm tonight in The Y Lounge, 2nd floor of Winnett. This year's Model U.N. conference will be held April 2-5 in San Diego. Anyone interested in attending this year's conference is encouraged to come to tonight's meeting. If you can't come to the meeting, talk to Erik Krumrey, Ruddock 238.

Caltech SF Library

The Caltech Science Fiction/Fantasy Library will be open for business starting next term. Bring all those books you left at home when you return from break, so you can lend to and borrow from other science fiction and fantasy readers on campus. Depending on member interest, we could become a full-fledged science fiction club, with convention trips, speakers, you name it. Watch for an organizational meeting in early January! See posters around campus for details, or call Mark Looper at 304-0006.

Don't Leave Home Without It

Travelling abroad? Don't leave without an International Student ID Card. You can obtain it from Ingrid, International Desk, 105 Winnett Student Center, x6330.

Peace Date Extension

The deadline for the petition for peace in Nicaragua has been extended to February 15th by the National Student Action Center. Keep collecting signatures if you can! For more information contact Hasok Chang, 792-2659.

S.T.R.I.V.E. Meeting

Caltech's Society To Reduce International Violence on Earth (STRIVE) is now meeting regularly on Thursdays at 5:15 pm in Clubroom 1, Winnett. Everyone is always welcome to attend. Some of our current projects are an alternative job fair and arranging for various speakers to come to campus. Stop by if you are interested in helping with programs, if you have ideas for new programs, or just to share your thoughts about world affairs.

A.S.I.S.C. Christmas Bash

The Association of Students from the Indian Sub-Continent would like to arrange a Christmas get-together for its members on Saturday, December 20, 1986 at 6 pm. There will be food and movies. I would like feedback from the members about whether they will be able to attend. Please respond ASAP so that appropriate arrangements can be made. Please leave message with Deven Kalra, x6790, 793-8632 or Ravi Thyagarajan, x4113, 449-9362.

Vacation Gaming

The Caltech Gamers will continue to meet during Christmas break, every Friday night from 7:30 pm to whenever. Tonight, stop by if you want to arrange carpools to the big science fiction and gaming convention down by LAX over the New Years weekend. Also stop by if you want to meet people, play various SF and fantasy games, or to arrange to do so at other times of the week. Open to all Caltech community and any other friendly face.

MacValley December Meeting

The MacValley Users Group announces that its December general meeting will be held Tuesday, December 16, at 7:30PM in the cafeteria of Burbank High School at Burbank Blvd. and Third St. in Burbank.

Ten to fifteen vendors of software, hardware and accessories will exhibit their products at the second Annual Holiday Vendor Faire.

For further information please contact Ruth Stever, 848-1277, or write MacValley Users Group, Box 4297, Burbank CA 91503.

Grant & Fellowship Directory

A directory of grants and fellowships compiled by the Graduate School of the University of Massachusetts at Amherst is now available at the Career Development Center. We have also received the latest of Peterson's Guides to Engineering Science and Computer Jobs. Visit the Career Development Center for more information.

Summer Biomed Program

The Jackson Laboratory, in Bar Harbor, Maine, is sponsoring a 9-week program in various areas related to biomedical research, including biochemistry, developmental genetics, formal genetics, immunology, molecular genetics, and physiology. Each student conducts an original research project within the on-going program of a member of the research staff. The focus of the program is on research training in mammalian genetics and development using multi-disciplinary experimental approaches and genetically defined laboratory animals, primarily mice.

The cost is \$1,500 for the nine weeks, including room and board, with scholarships available for participants who require financial aid. Application due date is March 2, 1987. Program runs from June 14 to August 11. For further information call (207) 288-3371, x253, or write: The Jackson Laboratory, Training & Education Office, Bar Harbor, Maine 04609.

Attention Writers!

The Literature Faculty is proud to announce the 41st Annual McKinney Competition. The Mary A. Earl McKinney Prize is awarded each year for excellence in writing. Only full-time students officially registered at Caltech as undergraduates are eligible to enter the competition. This year three prizes will be given in three categories: poetry, prose fiction, and non-fiction essays. All submissions must be typewritten and double-spaced. In the poetry category, entrants may submit up to three poems. Submissions of prose fiction should not exceed 12,000 words. Essays may be ones prepared for a humanities class or any good piece of original writing on a topic relevant to the humanities. The prize in each category will be \$300.

Each student is entitled to only one en-

try in each category. All contestants must submit their work to Professor Jenijoy La Belle, Division of the Humanities and Social Sciences, by no later than April 30, 1987. No entries will be returned. Each category will be judged by a three person committee from the Literature faculty. Essays will be judged on the quality of thought and the effectiveness of the writing. Winners will be announced the last week of May. The names of the winners will appear in the commencement program. There will be an Awards Banquet on May 28. The Committee may divide the award in each category in case of more than one outstanding essay. Previous winners in any one category are not eligible for the competition in that category.

If you have any questions, contact Dr. La Belle, x3606, or Betty Hyland, x3609.

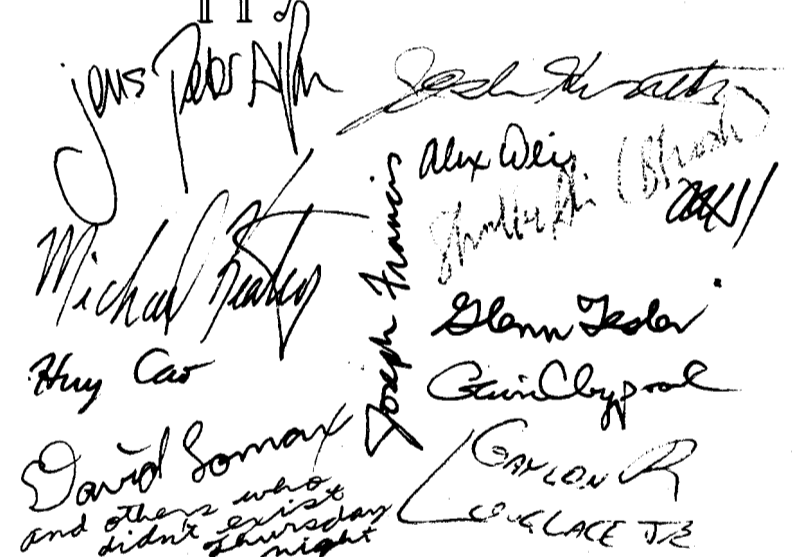
Korean Scholarships

The Korean American Scholarship Foundation is offering scholarships for 1987-88. To qualify you must be a full-time student of Korean American heritage. Scholarships average \$1,000 per student. Deadline is 31 January 1987. TO receive an application write to: Scholarship Committee Western Region Office Korean American Foundation Scholarship Box 3388, Santa Ana, CA 92703

SWE Scholarship

Women majoring in engineering are eligible to apply for the 1987-88 Society of Women Engineers Scholarship. Applicants must have an overall grade average of 3.5 or better. Scholarship amounts vary from \$250 to \$2,500. Applications are available from the Financial Aid Office, 12-63. Deadline is February 1, 1987.

continued on page 6



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CALTECH BOOKSTORE—

FINALS SPECIAL: All paperback science fiction 10% off during finals week, Dec 12-19, 1986. Stock up now for vacation and save! Only at the Caltech Bookstore.

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