

So, you think you could do a better job? Then run for Tech editor!

THE CALIFORNIA TECH

So you say, "heck this paper is small!" Well, then write for the Tech!!

Volume XCIII, Number 11

Pasadena, California

January 10, 1992

Shake, Rattle and Roll

By Roshan Kumar

Another sunny morning in beautiful Southern California. A gentle murmur ripples through households across the land, as glassware and furniture merrily tinkle to the accompanying roar of a passing train. As the roar builds in intensity, however, fear grips the hearts of legions of Californians—is it merely the local Amtrak, or is it the *Big One*?

Dr. Hiroo Kanamori, Professor of Geophysics and director of the Institute's seismological laboratory, will try and strip away some of the fear and misconceptions regarding earthquakes as he explains some of the latest technological advances in the field of seismological study as part of the Earnest C. Watson Lecture Series next Wednesday, January 15 in Beckman Auditorium at 8 p.m.

The lecture, entitled "TERRAscope and CUBE—The Modernization of Seismology and Hazard Mitigation" will deal with efforts to better analyze the effects of earthquakes and thereby lessen the danger they pose to our modern society.

"The TERRAscope," says Dr. Kanamori, "is basically a state-of-

the-art, computer-controlled seismic instrument with a dynamic range and broad frequency which gives us the capability of real-time data retrieval." Conceived in a 1985 meeting of Caltech seismologists which concluded that better instrumentation was needed to accurately analyze and understand earthquakes, the TERRAscope (derived from "earth telescope") consists of a series of seismic measuring stations located at various points throughout Southern California and linked via a computer network which allows the system to virtually instantaneously record seismic waves and transmit the data to a variety of users.

TERRAscope's great advantage lies in its ability to record seismic waves across a wide range of frequencies, discovering waves which passed unrecorded before. There are currently six stations which have been operational since 1988 (including one here at Caltech), with 10 more planned by the end of the year. Each station is approximately the size of an average bookshelf and costs between \$100-150,000. The project is being financed with grants from both the L.K. Whittier and ARCO foundations.

In its short life, TERRAscope has already chalked up some notable

achievements, including measuring waves during the recent Sierra Madre earthquake which would have previously been off the scale, raising the height of those neighboring mountains that magically appear around Caltech after the rain by a centimeter or so. During a landing of the space shuttle *Columbia* at nearby Edwards Air Force Base last year, the Pasadena station was able to pick up shock waves caused by the shuttle's sonic boom shaking Los Angeles' downtown skyscrapers even before the shuttle passed overhead. Last summer's eruption of Mt. Pinatubo in the Philippines produced not only a cloud of ash, but also seismic waves caused by the ash's vibrations through the atmosphere, as TERRAscope found out.

Although the system's size is theoretically unlimited, Dr. Kanamori describes a tradeoff between size, accuracy, and reliability and says, "We believe the optimum size will be 20-25 stations. Currently, the system transmits data through telephone lines, but it is hoped that it will soon be hooked up to a satellite uplink, allowing for real-time data transmission to any computers hooked up to the TERRAscope network."

Another important component of the effort to bolster earthquake response is CUBE, the Caltech USGS (United States Geological Survey)

Broadcast of Earthquakes. Sponsored by a joint venture between Caltech and the USGS, the year-old system transmits data from a 250 seismic station network to the Metropolitan Water District, the Los Angeles Department of Water and Power, the Santa Fe Railroad, the Southern California Gas Company, and Southern California Edison.

Ultimately, the goal of TERRAscope, CUBE, and seismologists in general is to enable the public to better cope and adapt to a constantly developed world in which earthquakes are a reality. "Living in California," says Dr. Kanamori, "earthquakes are going to happen. The Los Angeles of today is not the same city as fifty, or even twenty years ago. Cities have developed a great deal in that time...but, in the end, earthquakes set a 'boundary condition' that we must live with."

Dr. Kanamori, who in the December issue of *Caltech News* was referred to as having "a reputation as the world's foremost seismologist," credits his upbringing in Tokyo with some of the impulse that pushed him into seismology.

"Once you've been through a big earthquake," he says of the 1968 trembler that shook Japan to the core, "it changes the way you think about them. You want to understand them."

Understanding them, however,

may reach a limit eventually. "It is naive to think that we can predict every earthquake," says Dr. Kanamori. "Earthquakes are caused by a wide range of factors, and we can't predict every detail...it's a very quantitative process...in some societies, where a false alarm is permissible, maybe...but you can't simply evacuate Los Angeles just like that."

The answer, he feels, lies in protection rather than prediction. Using the real-time data facilities of TERRAscope, CUBE, and their brethren, government and city officials and emergency services can quickly and accurately pinpoint the areas of greatest damage and send aid where it is most needed. In the recent Sierra Madre earthquake, even an embryonic CUBE was able to save the railroad two hours in search time by locating the most severely damaged stretches of track.

"If you look at the statistics," says Dr. Kanamori, "the chances of being killed or injured in an earthquake are very small, and much of that occurs from people who are still alive after the quake but are trapped among the rubble."

The message that Dr. Kanamori hopes to get across in his Wednesday lecture is one of hazard reduction. "Earthquakes present modern society with a tremendous scientific challenge," he says, "and we must learn how to use technology to meet that challenge."

Capra Film Series

by Phyllis Brewster

The Capra Film Program, under the direction of Professor of History Robert Rosenstone, will present two film series, portraying two distinctly different images of society—one of the U.S. and the other of the Soviet Union. The two series will screen at 7:30 p.m. on Tuesday nights during winter quarter, in Baxter Lecture Hall. Admission is free and open to the public.

The first series, premiering on January 14 (and running on alternate Tuesday nights with the second series), will focus on the history of the Soviet Union as shown in Soviet cinema. Beginning in the mid 1920's, Rosenstone says, Soviet filmmakers began developing a distinctive style of film suitable for a socialist state—"a collectivist aesthetic." The Soviet films will extend through winter and spring quarters, and will cover movies produced between 1924 and the mid 1980's.

The second film series will be a four-film tribute to the late Frank Capra, Caltech alumnus and one of Hollywood's top filmmakers, and Capra's daughter, Lou Capra, will be a guest speaker at the March 3rd film showing. Of the four Capra titles Rosenstone has chosen, three have "social conscience" themes: *Mr. Deeds Goes to Town* (1936), which will screen on February 4; *Mr. Smith Goes to Washington* (1940), on February 18; and *Meet John Doe* (1941), March 3. All four Capra films focus on individualism and integrity, as exemplified by the first film in the Capra series, *It Happened One Night* (1934), to be shown January 21.

Lou Capra, who is a professor of literature at Findlay College in Hoio, will talk about her father's work and their family life.

The winter quarter Soviet films will be: *The Cigarette Girl of Moscow* (1924), on January 14; *Battleship Potemkin* (1926), January 28; *The End of St. Petersburg* (1927), February 11; *Man with a Movie Camera* (1929), February 25; and *Chapayev* (1935), March 10.

Arts and Sciences

Dear Editors:

In the December 6th, 1991 issue of the *Tech*, an essay by Maneesh Sahani was addressed to me and requested a reply. Mr Sahani paraphrased me (actually, his "ailing memory" served him very well) as saying at a recent symposium that I preferred that my students be working in the lab rather than attending the symposium, which was entitled Cosmology, Astronomy and Art. Bravely aligning himself with Dirac and Einstein, he asks (I paraphrase him) shouldn't we scientists be willing to engage in discourse with artists in order that we might draw inspiration from similar sources?

Actually, there wasn't an artist in sight that afternoon. The discussion centered on the relation between ancient creation myths and modern

Weekly Poll

Starting next week there will begin an informal weekly poll of the undergraduate students. There have been a few questions that I have asked people, or I have been asked, that I think would be interesting to ask the entire campus. These polls will be aimed mainly at the undergraduates. They will cover lots of things, but mostly center on Caltech and what you think of it.

The breakthrough that made this possible was the construction of the new mailboxes, sort of. The problem that needed to be solved was how to collect the answers after people had taken the time to answer them. Well, every house now has a set of mailboxes that it doesn't use, so we thought we could put them to good use. So, after answering the one or two questions, you can just rip the square out of the paper and put it in the outgoing slot of the house mailboxes. Someone will come by and pick them up (probably sometime Sunday) and then the results will be published in the following week's *Tech*.

I hope that this might shed some light on the general attitude of the undergraduates, since it's hard to take the time to tell anyone what you think. If you have any questions or comments, please write them on the ballots.

cosmology, with an excursion into Galileo's method of marketing his ideas and making himself very rich in his days in the court of the Grand Duke of Tuscany. In my remark, I was seeking to align myself (wisely, I thought) with Galileo, who said (I paraphrase from the Italian) "I would prefer to discover a single fact, even a modest one, than to debate the Great Issues at length without discovering anything at all." I had in fact just quoted this famous saying of Galileo before making the remark Mr. Sahani cites.

Galileo got into a great deal of trouble by not heeding his own advice (his infamous trial came about because of his book *Dialogue of the Two Great World Systems*.) Now I've gotten into trouble for merely repeating his advice, and saying what it would mean at Caltech (graduate students should be working in their labs, not debating how the universe managed to get created).

By way of replying to Mr. Sahani's question ("You disagree, Dr. Vice Provost?") let me say, first of all, that we all owe a debt of gratitude to Professor Wasserburg, who arranged the excellent symposium. We have far too little of that sort of thing at Caltech. Second, I'm delighted and touched that a student, Mr. Sahani, not only attended but even remembered something I said. I also apologize for being flippant. Faced with the daunting task (given me by Professor Wasserburg) of responding formally and extemporaneously to those weighty lectures, I retreated behind a frail barrier of humor. There Mr. Sahani has stalked me out and exposed me.

Mea culpa.

Sincerely (more or less),
David L. Goodstein

One Planet, One People.

Welcome to 1992. Looking back, I see people making sacrifices in hopes of making life better for themselves and their neighbors. Rivals are working together to end decades of bitter hate. Unification of Germany. The stalling of the Cold War. The end of the Soviet Union. Discussions between Israel

Letters

and Arab nations. Life may become difficult for millions in transition, but they seek the rewards of a more peaceful tomorrow, and that hope carries them through hard times. They are trying.

Now consider a community closer to home: the Caltech undergraduates. Us. In my three and a half years here, I have seen few students taking a stand when the general populace can benefit from action. I understand the risk of publicly announcing your beliefs in a hostile environment. Last year a few friends stepped forward to oppose what they believed to be wrong. In return, they received alienation, further discrimination and harassment. I commend their courage - I know firsthand what it feels like to be labeled as a "hothead" and wishing to remain silent to avoid confrontation.

Now it is my time to take the risk. As you read on, many of you will wonder why I submit this letter to the entire student body and risk facing backlash from my own housemates. But as 85% (85%) of you readers may agree, the following is something that affects you in one way or another.

Graduation is only 154 days away, and, like the ten previous years, my house recently posted a sign-up for red caps and gowns. Five seniors have already signed up. As most of you know, while everyone else wears black for commencement, Fleming House seniors can wear red. Imagine roughly 180 students in black and a couple dozen wearing bright red at the ceremony.

Parents ask if these are the honor students and are appalled to hear that the contrasting attire has no real significance. Now imagine your parents asking you why these other students are so special. Despite the hatred against Fleming and its members resulting from this display of red, Fleming continues the practice year after year. As much as I like Fleming and my housemates, I'm disappointed with this house attitude. Thus, as of 8am today, I resign as Fleming House Historian and give up the rights and privileges associated with the position.

Each of us was admitted to the

California Institute of Technology and works day and night pursuing our degree. We receive the diploma for our accomplishments in science, math, engineering and other fields of study. Does this achievement have anything to do with which house we live in? No. Does house affiliation justify extra accolades? No. What have members of Fleming accomplished that members of Blacker, Dabney, Lloyd, Page, Ricketts or Ruddock have not to deserve the attention of hundreds of friends, family, and guests? Absolutely nothing.

There is this argument in Fleming that goes like, "We've paid our dues from being discriminated against just because we live here. We deserve to wear red gowns to make up for this unjust treatment." Wrong. The problem with this reasoning is that activities like wearing red at graduation cause these same terrible house-to-house relations.

"But it's a tradition!" is a common reply. The problem with this response is that traditions need not continue just because they're called "traditions." We must evaluate them continuously to determine if the message they create is really what we intend to convey. The message I see from red caps and gowns is selfishness, conceit and arrogance.

This past week I was asked, "Where's your house spirit?" Believe me, if I didn't like the house I wouldn't have stayed on campus and worked for the house all these years. We have plenty of time in our stay at Caltech to glorify our houses.

I also hear the argument, "Other houses can wear their colors if they want! Blacker does." First, Blacker didn't choose black decades ago because of the graduation gown color. And the other five houses probably don't care to offend others as we do.

Here is my point: *I challenge my fellow Fleming seniors, especially the graduating officers, to wear black and not red at Commencement.* I have placed the house and its members in the spotlight of all undergraduates, faculty and associates. We must be in this light, since this decision affects our relations with others in the future. Caltech is watching us. By departing from this tradition and voluntarily removing a cause of friction,

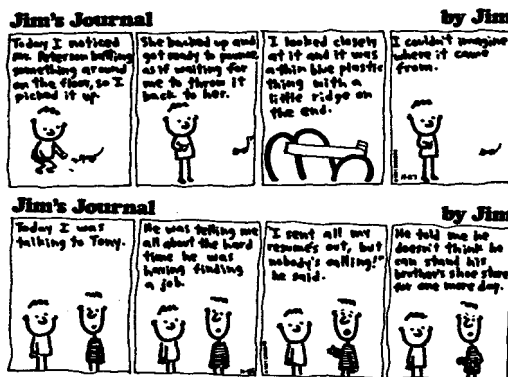
see page 2

Letters from page 1
we can take a brave step in improving campus relations. By refusing to sacrifice the commencement "distinction," how can Fleming expect other houses to take similar strides for improving student life and communication?

This June, I will graduate from Caltech in black. I hope my housemates will do the same. Commencement is neither the time nor place for self-segregation. After all, we're...

One school, one color.

Sincerely,
Christopher M. Ho, Senior
former Fleming House Historian



ENGINEERING COMPUTER SCIENCE GEOSCIENCE APPLIED SCIENCE

INDIVIDUAL.

Individual initiative has always played a major role in Schlumberger's growth and technological leadership. Today, Schlumberger employs 53,000 people in 97 countries with annual revenues in excess of \$5 billion.

Schlumberger is comprised of two main business groups: oilfield services, which offers a complete range of energy exploration and recovery services; and Measurement and Systems which produces everything from utility meters to CAD/CAM systems.

The Schlumberger Companies value individual initiative. If you'd rather lead than follow, and enjoy the recognition that goes along with taking responsibility for the work you direct, contact us today. We'll give you the support, training and opportunity you need to meet the challenge.

INITIATIVE.

Schlumberger

Founded On Innovation.
Expanded Through Technology.
Worldwide.

Schlumberger Industries, Schlumberger Technologies and Schlumberger Oilfield Services are equal opportunity employers.

Please Note: Open to all interested students. Your attendance at the Information Meeting is a prerequisite to your interviewing process. Please attend. Refreshments provided! Casual attire.

INFORMATION MEETING:
Date: January 21, 1992
Time: 4pm - 6pm
Place: Student Activity Center

INTERVIEWING:
Date: January 22, 1992
Place: Check with Placement

Editorial

Jon Liljeblad

President Bush's invitation to the leaders of American business to accompany him on his mission to Asia re-sparks serious questions in the recurring debate over the nature of the American market. On what was originally intended to be a goodwill tour of the Pacific Rim economies, the chosen representatives of American enterprise found themselves with the power to confront their Asian counterparts and also influence Bush's statements to the rising Pacific economic powers. But for all their efforts and intentions—aimed at "levelling the economic trading field," opening Asian (specifically Japanese) markets, and improving (again, primarily Japanese) import/export restrictions, the CEOs' possibilities for success remain dubious. If anything else, their endeavors may actually backfire.

The major Pacific Rim economies, which include Japan, South Korea, Hong Kong, Singapore, and Australia, have risen to prominence through the latter half of the twentieth century largely as a result of increasing mercantile traffic, marginal labor costs, large market potential and realization, and selective specialization. Their current position and wealth relative to the United States are not completely unexpected, as their development was and is nothing more than an example of what may happen when essentially third-world (or something close) countries enable themselves to ascend in the international arena.

But what may seem as a natural product in terms of international economic history and as a deviously insidious threat to the American way is not necessarily seen in the same manner by Pacific Rim eyes. In particular, the Japanese view their success as the reward for fifty some-odd years of hard work, a trophy well-earned as a result of dedication to the ethics of labor, team-work, and duty.

Their current position comes despite the uphill battle in a ferocious capitalist system whose basis is simple: compete to win, or face disaster and possible annihilation. The undercurrent view so often mentioned as being anti-American Japanese sentiment (a view, incidentally, also pointed out by the American media) consists in essence of questions over maturity, spoiled behavior, bias, and nationalism in the United States (i.e., the Americans have become too accustomed to having easy competition, they expect open markets but give none in return, they expect to dominate, they have become spoiled, etc.).

Regardless of one's opinion of such attitudes, the somewhat troubling question in relation to the Bush mission asserts itself as "If the Pacific Rim countries even remotely think such things now, what will they think after our CEOs complain to their CEOs and accuse their nations of being isolationist and unfair?" In their eyes, such assertions may only serve as buttresses to current negative perceptions of American business. To them, such efforts may only reinforce the notion that Americans are whiners who all along taught developing nations about the ruthless nature of capitalist economy when the U.S. was on top but who now can only moan and complain about the incompassion of the international market now that the U.S. is ailing. Given this perception, the Pacific Rim nations may only be more likely to give in to the temptation to ignore the complaints and remonstrations of U.S. businessmen and continue on as before.

The point, you see, is not if their perceptions of us are correct or true, but rather that given such images, they may only misinterpret the Bush mission as an effort by and opportunity for Americans to interfere in their way of conducting business. Thus, they would have the justification to do the opposite of what the CEOs want—ignore American accusations with aplomb.

Y NEWS

Associates Student Sunday is back! The Associates are pleased to offer this opportunity for students and Associates to get together in an informal setting. This is a welcome chance to enjoy a home-cooked meal with a family. Student Sunday will be January 26 from 5:30 to 8:00 PM. There will be four students for each home. Come alone or sign up with your friends. Sign-up sheets are at the Y or in your house.

THE CALIFORNIA TECH

Volume XCIII • Number 11
January 10, 1992

EDITORS

Andy Crews
Delwyn Gilmore
Jon Liljeblad

PHOTO EDITOR
Rajan Ranga

WRITERS

Roshan Kumar
Shane Sauby
Phyllis Brewster

BUSINESS MANAGER

Sonny Arcilla

CIRCULATION

John Grade
Jennifer Wright

THE CALIFORNIA TECH

Caltech • 40-58 SAC
1201 East California Boulevard
Pasadena, California 91125
(818) 356-6154

Published weekly except during examination and vacation periods by Associated Students of the California Institute of Technology, Inc. The opinions expressed herein are strictly those of the authors.

Letters and announcements are welcome. All contributions should include the author's name and phone number and the intended date of publication. The editors reserve the right to abridge and edit all submissions for literacy, expediency, or anything else. Turn in copy (preferably on Macintosh 3.5 inch disk) to the Tech mailbox outside SAC room 40. The deadline for copy is Wednesday at noon; for announcements, Tuesday at 5 PM.

The California Tech is distributed free. Issues will be mailed off-campus upon receipt of \$10 per year to cover third-class postage and preparation costs.

Printed by News-Type Service, Glendale.
ISSN 0008-1582

LORENZO'S BARBER SHOP

Unisex Hairstyling Ask for Your Caltech Student Discount!

Regular Cut (men) \$ 9 ⁰⁰	\$1 off
Regular Cut (women) \$ 9 ⁰⁰	\$1 off
Style Cut \$12 ⁰⁰	\$2 off
Permanent Wave \$40 ⁰⁰	\$5 off

9 a.m. - 6 p.m., Monday - Saturday
14 N. Mentor Avenue, Pasadena

(818) 795-5443
No Appointment Needed

WE WANT YOU!

If you (or your club/group) are doing any kind of science education outreach, we want to know more about you, and include you in our consortium. Call or write Elizabeth Hamilton at Mail Code 216-76, telephone extension 6818, or email: elizabet@smaug.caltech.edu.

FRIDAY NIGHT ASCIT MOVIE

Bill & Ted's
BOGUS
Journey

With:
Mad as a Mars Hare

Baxter Lecture Hall
7:30 and 10:00
\$1.50 for A.S.C.I.T.
\$2.00 for non-A.S.C.I.T.

Next Week:
**The Good, The Bad,
and The Ugly**



新同樂酒家 SUN TUNG LOK RESTAURANT

3 Master Chef Specialities
DIM SUM, SZECHUAUN, CANTONESE, SEAFOOD

Dim Sum Lunch
Daily 11 am-3 pm

20% OFF with Caltech ID

OPEN

Dinner Only Dine-In or Take-Out

7 DAYS

400 S. ARROYO PARKWAY

11AM-11PM

Between California and Del Mar



584-6719
584-6720

FREE PARKING
IN PASADENA
INN LOT



The Inside World

Inside World Policy:

All Inside Worlds must include the author's name. Inside Worlds can only be written by current undergraduates. The editors reserve the right to edit any or all parts of an Inside World. No libelous material will be accepted. It is the author's responsibility to check material written about a person to see if they consider it libelous. Please submit a 3.5 inch Macintosh Disk by 8:00 PM Wednesday.

This Week's **Inside World** was written by:
Dabney: Stephen Thompson
150 S. Chester: Christopher Dunn, Mark Lakata
Ricketts: Dan Xystus
Ruddock: Kieth Langer, Aaron Lipman, Ari Kaplan

		2 nd	1 st
Blacker	0	0	3
Dabney	1	1	12
Fleming	0	0	17
Lloyd	2	2	11
Page	0	0	10
Ricketts	3	3	8
Ruddock	4	4	9

RICKETTS

Dan Xystus

In a dimly lit room, Jiminy Cricket once said to Pinnochio "it is not easy being a cricket; we have problems just like anyone else. When things get tough my boy, remember the only difference between you and I is that insects make more interesting noises when stepped on." My grandfather told me that story when I was very small. I do not know why I remembered that story now, maybe I am warped mentally, or maybe it is because I am contemplating the upcoming term. Second term junior year for a physicist is supposed to be the most exacting term of all -or so I am told by reputable sources. I think my sources are a bunch of sadists. School appeared to be different in some fundamental way recently. When I came to Caltech, there were not as many foreigners as there are now. The school has certainly gone downhill. Realize that the foreigners that I speak of are not from another country, but are extraterrestrial beings. You see they look just like us, so that it is easy to infiltrate our culture. Ever wonder how a student can ace a Ph 106, Ph 98, or similar course's midterm and finals. Could it be that they are intellectually gifted in some way? No. The explanation, my friend, is that alien influences are at work. If those few "gifted" individuals are not aliens themselves they are the ones who have sold out. They have undergone changes—biochemical, neurological,

structural, or sexual changes. There is not enough data to know exactly their anatomical differences, but one can easily see that this problem must be dealt with someday. They are studying us right now. Look at the student mailboxes. Were they put there for the student's convenience or for some other purpose? With the mailboxes in a central location the aliens could study up close our super secret Post office sorting algorithm. This information could give the extraterrestrials unforeseen power. Who knows the extent of their power or accomplishments. Could these be the aliens behind: Easter Island? JFK's assassination? Dan Quayle's rise to power? or even the Hotdog-hotdog bun enigma? Are these aliens friendly or big mean ones with huge green teeth and blue hair and breath that can strip the paint off a house? Time will tell. I felt that you, the Caltech community should be warned. Keep an open eye and be strong.

Harbinger of Suspicion

EAT
THIS

DABNEY

A DABNEY HOSES
Christmas

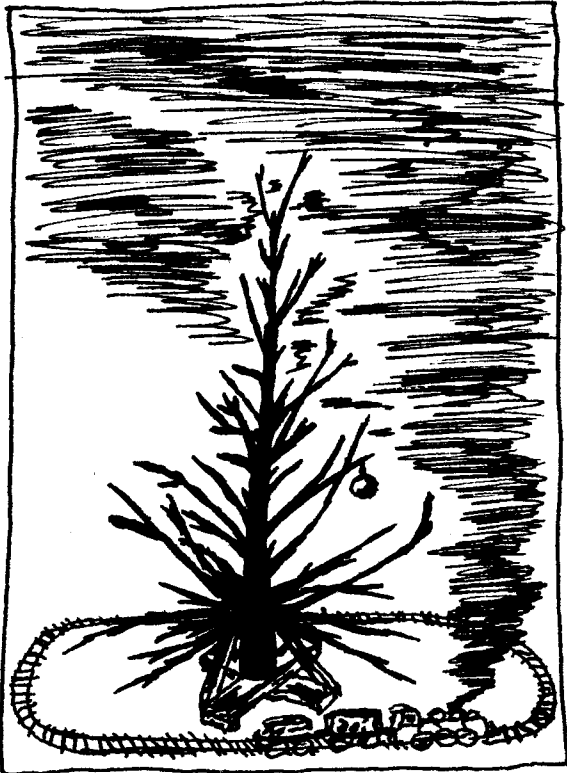


Figure 8.09: A flame-retardant tree.

SANITY CHECK.

NO
R
E
T
I
L
I
N
E
S
U
P
P
O
S
E
D

150 Chester

150 South Chester, The Olive Woods
*****PERSONALS*****

Commonly used symbols:

- F - Female
- M - Male
- W - White
- N - Black
- O - Asian
- I - Native American
- M - Latino
- L - Lesbian
- G - Gay
- B - Bisexual
- J - Jewish
- A - Atheist or Agnostic
- ? - Non-racist

MEN SEEKING WOMEN

ENGINEER seeks healthy SOF or SWF to blow my whistle. SOM, 20, 3.9GPA, owns an expensive sportscar; cool haircut.
#44

HUNK WITH A HEART, SWM, 21, seeking attractive SOF to hold hands at pumpkin drops and breast feed me. I'm the man of your dreams. Shall we dream together?
#54

BIOLOGIST seeks blonde SOF to accept my genes. SWM, 19, never UASHed, understands a woman's anatomy. Acupuncture optional.
#27

VERONICA!! Write me back! I accidentally erased your e-mail. Ted.
#6

CHEMIST with bulging test tubes seeks athletic SJF to stir my fluids. SJM, 21, aced GREs, destined for Ivies. Meet me on the road to success.
#75

LOOKING FOR FRIENDSHIP, and possibly marriage. Tall, dark and handsome SWM, 22, seeks S?F with sparkling eyes and sense of humor for evenings of arm-in-arm walks and romance under the glow of the moon. May I fulfill your every desire?
#61

VERONICA!! Write me back! I accidentally erased your e-mail. Bob.
#106

ASTRONOMER with powerful telescope searches heavens for dark-eyed red-head to experiment on astronomical corona. SWM, 18, wears designer frames, has own telescope cover. Let us research the gravitational effect of black holes on pulsars.
#24

HANDSOME, bright, cheerful, imaginative SWM, 22, seeks naughty older S?F for instruction in love. Can be discreet.
#203

PHYSICIST seeks comely young lady to discover my particles. Stud in class and out. Has new linear accelerator for high-energy potential barrier penetration.
#48

VERONICA!! Write me back! I accidentally erased your e-mail. Bill.
#206

SEMI-ATTRACTIVE SWM wants several S?Fs to give him constant dorm room company, help him with homework, and glom him incessantly. Must be comfortable with childish flirtation and inexorable rejection.
#60

PROGRAMMER desires lithe, virus-free SWF with floppy disks to mount my hard drive and service my R/W head. Must have ample supply of software. I am familiar with big O notation. May I finger you on the net?
#80

WOMEN SEEKING MEN

(None this week.)

MEN SEEKING MEN

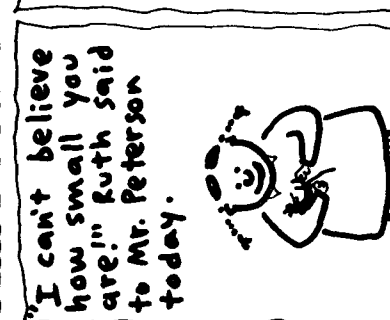
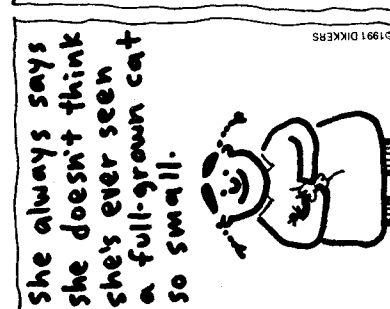
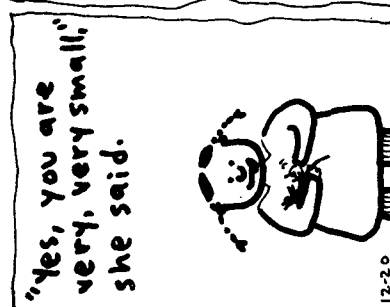
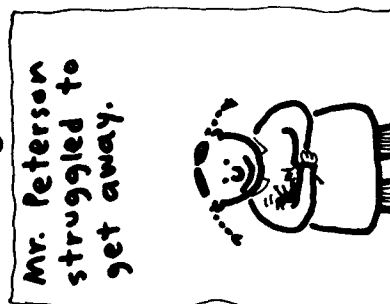
UNCONTROLLED ANIMAL inside me desires S?M for S/M. No role preference. Please, no permanent scars; small pets OK.
#57

WOMEN SEEKING WOMEN

ELLE!! Write me back! I accidentally erased your e-mail. Veronica.
#306

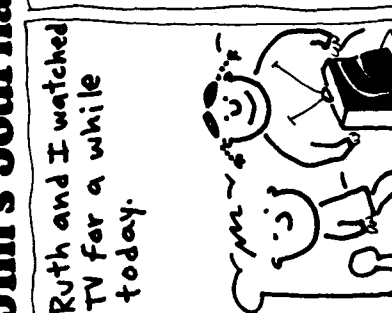
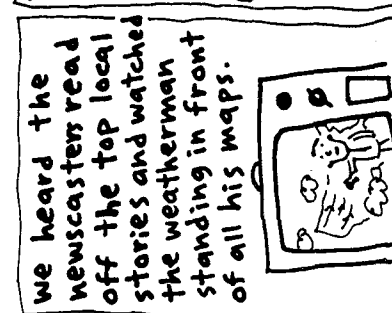
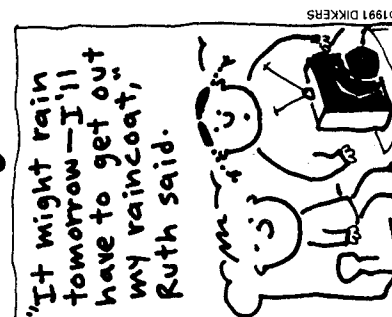
Meet your match!!! Call 976-DUAL to learn the e-mail address. A charge of \$5/kB will be billed to your House discreetly. *If your new friend provides revealing GIF photos over the network, we are not liable for any penalties imposed by the CCO Anti-Pornography Council.

by Jim



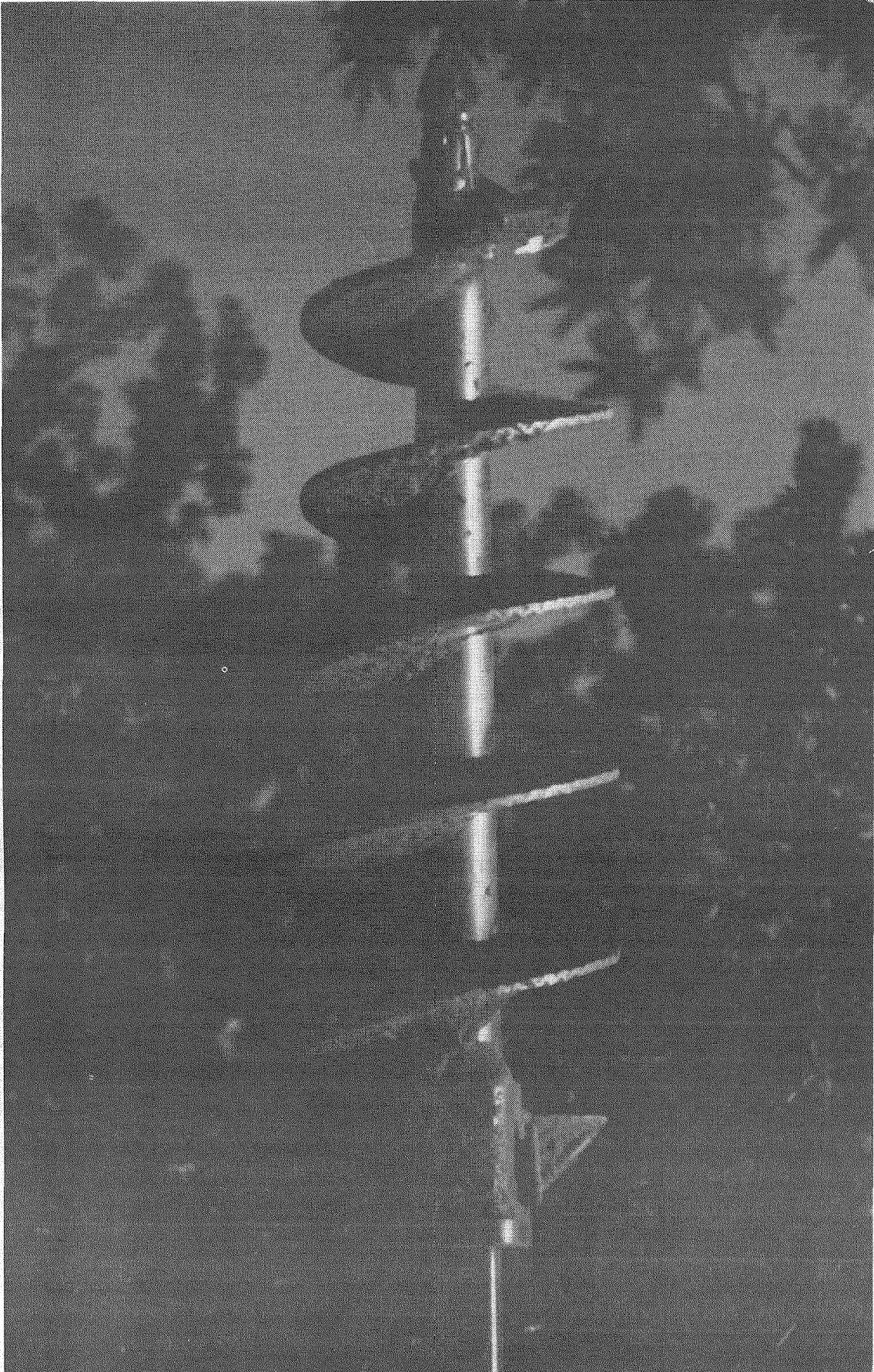
Jim's Journal

by Jim



Jim's Journal

Caltech: The Big Screw



RUDDOCK

Zayin Ba'ayin House

Let's just begin by saying that every college dude in Connecticut looks like Ari Pine. They all wear sweats and backwards baseball caps, and that "I haven't shaven yet" look. As we entered the cafeteria at U of Hartford, we were greeted by the starbellied sneetches and the bare bellied sneetches.

To our immediate right were several bleach-blondes with shit-eating grins. They greeted Ari (Kaplan) favorably as he waved his wallet in the air, exposing some plastic. After proving our financial worth, we were encouraged to sit in the "uptown" portion of the cafeteria. Ari Pine #79 walked up to his fellow Ari's, and uttered a guttural bonding noise which only his friends could understand. He yelled, "SWHUAWSSS." If you want to know what it means, ask Ari Pine. We haven't the vaguest clue.

As we grew tired of Connecticut (not very difficult), our next stop was central Massachussetts, specifically Mount Holyoke, commonly known as "Mount

As we grew tired of Connecticut (not very difficult), our next stop was central Massachussetts, specifically Mount Holyoke, commonly known as "Mount Holypoke", "Mount Hobag", you get the point. The common expression was "Holyoke to wed, Smith for head." (Smith is a COLLEGE, not an individual you bonehead). Unfortunately, the quality of the architecture far exceeds its inhabitants. It is at a place such as this that "women" is spelled "womyn," but not for politically correct reasons.

We were asked to check our manhood at the gate, and when we finally got to our destination, we were told that, "You must be escorted upstairs. All men require a female escort." New England's best kept secret is best kept a secret.

Our next stop was Holyoke's rival, Smith College. You won't find any girls here, just

"Smith WOMEN." (possibly also spelled with a 'y.') We had to check out if Ali's fantasy was a reality, or just one of many dreams ended with an empty box of Kleenex. The first house we happened upon was Tyler House, trying to see if anyone remembered the legendary Jody Kaplan. After loitering in the common area, one of the womyn approached us, asking if she could help us. After explaining to her that we were fine, she proceeded to go to the house phone and call security (I can just see their *Crime Beat*: 12/20 MEN were spotted in the common area of Tyler House).

After a quick exit, we headed as far away from Tyler House as possible (though the sirens were already sounding). We asked a few girls (whoops) for directions to Wilder House. The elated ladies were more than happy to provide extensive directions, and asked who we knew in Wilder House. After telling them that we were looking for Yvette, one of them jumped up and down. "Are you serious? I'm good friends with her!" I'm sure the conversation that took place that night contained the line, "Yvette, guys were looking for you!"

We continued our approach, but somehow were diverted to Lamont House. We were stopped at the front desk by a young woman in a WWII Stormtrooper's uniform. "Was tun Sie hier?" I explained that we were diverted to Lamont House. We were stopped at the front desk by a young woman in a WWII Stormtrooper's uniform. "Was tun Sie hier?" I explained that we were looking for Wendy. "Who may I say is calling?" "Tell her three guys from California are here to see her." The woman in uniform proceeded to march upstairs without bending her knees. A few minutes later she returned, at attention. Wendy appeared, quite ill and quite confused having just gone to sleep after three days without it. When she finally came to, the Gestapo authorized a pass for the three of us to go upstairs. After sitting down in Wendy's room, we were greeted by an entourage of a dozen women who, all of the sudden, happened to drop in on Wendy at once (coincidence?) Each of them made it seem as if they had some appropriate business. "Wendy, um, can I borrow that CD, you know, the one by The

Scats?"

Wendy's response was, "Sure, but who are you?" Another woman seemed to take an interest in Wendy's artwork, and the next one was the best. She looked like Kyra Sedgewick, and was trying to sell Condom-earrings to everyone in the room. Wendy began to cry out to her compadres, "You guys are out of control!" (which, when translated, means "Why don't you quit acting like you're here for a good reason. You saw guys and you just had to walk in, you desperately horny bitch.")

Eventually she kicked everyone out, save for her closest friends. We got into a little rap session with Wendy, Kim, Caitlyn and some chick with a mustache. It was refreshing to see how many parallels there were between the all-female world of Smith and the (effectively) all-male society at Caltech. For fun, they drink a lot of hard liquor and they funnel beer. Caitlyn was the most intrepid of the bunch, having expanded her horizons beyond men (without cutting that option). She told us of her exploits, and her attempts to convince my friend Yvette of her own sexuality. She explained that she hadn't gotten laid in some time, but when she gets down to New York she sleeps with "random" guys (yeah, they use that word there too).

This damned article is getting too long and I'm getting tired.

down to New York she sleeps with "random" guys (yeah, they use that word there too).

This damned article is getting too long and I'm getting tired.

Suffice to say that the rest of our Smith trip is not fit to print. Ask anyone in Northampton, and they'll tell you that Ari Kaplan is in fact the hottest dude on Earth.

As for the rest of our trip, in a nutshell, we made it out to Boston and discovered that MIT is not the golden palace that the media has made it out to be. We ran into Todd Roland, who transferred after freshman year. He said not to tell anyone that he shaves everyday, has short hair, and wears preppy clothes. NEXT WEEK: How to live in Vegas on seventy-five cents a day.

—homeboys

AND NOW,
TIME FOR
SOMETHING
COMPLETELY
DIFFERENT

I'M A LUMBERJACK
AND THAT'S OK
I SLEEP ALL NIGHT
+ WORK ALL DAY
I CHOP DOWN TREES
AND PULL DOWN BARS
I PUT ON WOMEN'S
CLOTHING
AND HANG AROUND IN BARS

NO I'M
NOT!!
THAT'S
JUST
A FLESH
WOUND!!

THE
Holy
Hand
Grenade
PATRICK ELAINE

what goes on

Soviet Film Addendum

Hum 133, History of Soviet Film, listed as a two-term course, may be completed in one term by special arrangement with the instructor, Professor Rosenstone. Anyone interested in taking the course should contact him at x4069, 228-77, or attend the first screening, "Cigarette Girl of Moscow," at 7:30 p.m. on January 14, 1992, in Baxter Lecture Hall.

Vietnamese Students Association

I cannot find a contact person for the Vietnamese Students Association, and we need to discuss the location of the club's library. Would any current officer please contact Mark Looper (304-0006, x6630, 220-47) or S.P.E.C.T.R.E., the Caltech Science Fiction Club, as soon as possible? Many thanks.

Football With the MOSH

Watch football on the MOSH's big screen TV and eat free munchies. NFC playoffs are Sunday, January 12, from 1:00-5:00 PM. The Super Bowl will be Sunday, January 26, at 3:00 PM. Call x6194 now to guarantee your seat for these great games.

Chess Tournament on Campus

The L.A. County Open will be held at Winnett Center this Saturday and Sunday, January 11 & 12. There will be five rounds, with the first round starting at 10:00 AM. Registration is from 8:00-10:00 AM. Call Frank Perez at 397-2816 for more information.

Scholarships

The Financial Aid Office has applications and/or information on the following scholarships. For a complete list of all scholarships check the bulletin board next to the bookstore or check the bulletin board in the Financial Aid Office. Our office is located at 515 S. Wilson, second floor.

The Society for the Advancement of Material & Process Engineering (SAMPE) announces its 1992 Undergraduate Awards Program for Engineering. Application packages must be submitted postmarked no later than Feb. 1, 1992.

The Society of Women Engineers announces its 1992 Spring Scholarship program. The scholarships are open only to women majoring in engineering with a GPA of 3.5. Applications, including supporting materials, must be postmarked no later than Feb. 1, 1992.

The annual Mensa Scholarship Essay Contest is here again. The essay should present clearly and concisely the applicants academic, vocational, and career goals. The only requirement is that the student be enrolled at an accredited college/university for the 1992-93 academic year. All entries must be postmarked on or before Jan. 31, 1992.

The Consulting Engineers Association of California announces its Sixteenth Annual Competition for upper-division, undergraduate scholarships in engineering. For application criteria, contact the Financial Aid Office. Applications, with all specified documentary material, must be received by CEAC no later than January 27, 1992.

The Chinese-American Engineers & Scientists Association of Southern California will offer ten or more scholarships. Students must be full-time, have accumulated at least 36 quarter units, attained a minimum GPA of 3.5 and expect to graduate after May 1992. Complete application materials must be received by January 31, 1992.

Science, Ethics and Public Policy Seminar

Dr. Jean-Paul Gaudilliere, from the Massachusetts Institute of Technology, will give a talk entitled "To Become or Not to Become a Molecular Biologist: Laboratory Culture and Discipline Building in France During the 1960's," Thursday, January 16, 1991 at 4:00 PM in the Judy Library in Baxter Hall.

Guitar Classes

Caltech guitar classes for winter quarter will meet on Tuesdays starting January 14 in SAC room 1 as follows: Beginning, 4:30-5:30 PM; Intermediate, 3:00-4:00 PM; Advanced, 5:30-6:30 PM. Classical and Flamenco repertoires are explored, but techniques transfer to other styles of guitar. The Beginning class includes a jazz/folk chord system. Classes are free to Caltech

Guitar Classes (continued)

students and other members of the Caltech community (space permitting). Undergraduates may receive 3 units of credit if they so choose. Private instruction on any level can also be arranged. The instructor, Darryl Denning, can be reached at (213) 465-0881.

Men's Glee Club

Caltech Men's Glee Club needs more singers and musicians. Undergrads, graduates, staff and faculty all welcome. Will perform with Caltech-Occidental Orchestra in February, and with Mt. St. Mary's College Women's Choir, Brahms' "A German Requiem" in April. Contact Dr. Donald Caldwell 3-58, x6197.

'CONVERSATIONS'

Computers

"Conversations with Computers" will be examined by Susan Brennan, Center for the Study of Language and Information at Stanford University, Tuesday, Jan. 14 at 4 p.m. in the Occidental College Bioscience Lecture Hall. Sponsored by the Occidental Cognitive Science Program and the PEW Foundation, the lecture is free and open to the public.



PARIAN TRAVEL

Caltech Officially Approved

Most professional, courteous, economical and efficient service for your **official** and **personal** travel needs. Free service to you.

Airlines, Cruises, Tours, Hotels, Car Rentals. Individual, Commercial, Groups.

(818) 577-8200

468 S. Sierra Madre Boulevard, Pasadena

LAEMMLE THEATRES

ESQUIRE

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

Naked Lunch

Daily 5:00, 7:30, 9:45 p.m.
Sat-Sun Matinee 2:30 p.m.

COLORADO

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

At Play in the Fields of The Lord

Daily 4:45, 8:30 p.m.
Sat-Sun Matinee 1:00 p.m.

CAERE

Caere Corporation needs top quality software engineers to develop algorithms and products based on image and pattern-recognition technology.

We are the world leader in page-recognition software and are recognized with awards from PC, Publish and MacUser magazines. Nestled among the trees in Los Gatos, California, between Silicon Valley and the ocean, Caere is a fast-growing company that offers challenging projects in a highly creative and supportive environment.

Caere will conduct on-campus interviews on January 14, 1992.

We require programming expertise and a BS or MS in Computer Science, Electrical Engineering, Math or Physics. Skills in C, assembly, UNIX, NeXT, Macintosh, pattern recognition, image processing, and quality assurance are assets.

Come to an informal meeting with Carl Alsing.

Carl Alsing, the midnight programmer in "Soul of a New Machine" and Caere's Director of Software Development will talk about "How to Teach Machines to Read." Refreshments and other interesting ideas will be plentiful. You'll be able to talk to Carl about your interests and ambitions. The meeting will take place at:

Student Activity Center
Room #26

January 13, 1992
4:00 to 6:00 PM

omniPAGE

TYPOIST

PARALLEL READER

CLASSIFIED ADS

Grammar And Language Specialist Leave It All To Me Get Help Easily and Reasonably

Personal And Unusual Business Letters Individual Contracts Sonnets And Jingles Help With Individual Research No Job Too Great

Call (818) 287-2011

Weekly Sports Calendar

Fri 1/10 7:30pm	Varsity Basketball	L.I.F.E. Bible College @ Caltech
Sat 1/11 9:00am	Swimming	SCIAC Invitational @ Caltech
Wed 1/15 6:30pm	J.V. Basketball	La Verne J.V. @ Caltech
Wed 1/15 8:30pm	Varsity Basketball	La Verne Varsity @ Caltech
Sat 1/18 5:30pm	J.V. Basketball	Redlands @ Caltech
Sat 1/18 7:30pm	Varsity Basketball	Redlands @ Caltech
Sat 1/18 11:00am	Swimming	Pomona and Occidental @ Caltech
Mon 1/20 1:00pm	Golf	Caltech @ Occidental
Wed 1/22 6:30pm	J.V. Basketball	Caltech @ Claremont-Mudd-Scripps
Wed 1/22 8:30pm	Varsity Basketball	Caltech @ Claremont-Mudd-Scripps
Thu 1/23 3:30pm	Swimming	Colorado College and Oxy @ Caltech

Pasadena Computer Center

Office Hours: Mon.-Fri. 9 a.m.-6 p.m., Sat. 10 a.m.-6 p.m.
1756 E. Colorado Blvd., Pasadena Phone: (818) 568-1088 FAX: (818) 568-9132

286-16MHz, 52 MB HD and MULTISCAN SUPER VGA

- 1 MB RAM, up to 16 MB RAM
- 1.2 MB & 1.44 MB High Density Floppy Drive
- 52 MB Hard Disk, 17 ms built-in 32K Cache
- Dual IDE FD/HD Controller
- AT I/O: 2 Serial/Parallel/Game ports
- 8 Expansion Slots
- 101 Enhanced Keyboard, Real Time Clock & Calendar
- Math Co-Processor Socket
- Mini Tower Case with 200-watt Power Supply
- 16-bit Super VGA Card with 512K RAM
- 14" Multiscan 1024 x 768 Super VGA Monitor, 0.28 mm dots

SALE PRICE----- \$915.00

386SX-25MHz, 52 MB HD and MULTISCAN SUPER VGA

- 386SX-25MHz System
- 1 MB RAM, up to 16 MB RAM
- 1.2 MB & 1.44 MB High Density Floppy Drive
- 52 MB Hard Disk, 17 ms built-in 32K Cache
- Dual IDE FD/HD Controller
- AT I/O: 2 Serial/Parallel/Game ports
- 8 Expansion Slots
- Math Co-Processor Socket, Real Time Clock & Calendar
- Mini Tower Case with 200-watt Power Supply
- 16-Bit Super VGA Card with 512K RAM
- 14" Multiscan 1024 x 768 Super VGA Monitor, 0.28 mm dots

SALE PRICE----- \$1095.00

Look At Our Customers From....

UCLA
USC
CALTECH
JPL
PARSONS
CITY OF LA
CITY OF HOPE
COUNTY OF LA
OCCIDENTAL COLLEGE
AMBASSADOR COLLEGE
AME
TICOR INSURANCE
TL ENTERPRISES
SUNBANK ELECTRONICS
AND MORE

386-25MHz, 85 MB HD and MULTISCAN SUPER VGA

- 1 MB RAM, up to 16 MB RAM
- 1.2 MB & 1.44 MB High Density Floppy Drive
- 85 MB Hard Disk, 17 ms built-in 32K Cache
- Dual IDE FD/HD Controller
- AT I/O: 2 Serial/Parallel/Game ports
- 8 Expansion Slots
- Real Time Clock & Calendar
- 101 Enhanced Keyboard
- 80387 & Weitek 3167 Co-Processor Socket
- Mini Tower Case with 200-watt Power Supply
- 16-bit Super VGA Card with 512K RAM
- 14" Multiscan 1024 x 768 Super VGA Monitor, 0.28 mm dots

SALE PRICE----- \$1195.00

6 REASONS WHY PEOPLE CHOOSE PASADENA COMPUTER CENTER OVER THE OTHERS:

- 1: NAME BRAND COMPONENTS
- 2: UNBEATABLE PRICES
- 3: ONE YEAR PARTS & LABOR WARRANTY
- 4: DIRECT FROM FACTORY (NO MIDDLEMAN)
- 5: LIFETIME TECHNICAL SUPPORT
- 6: WE ACCEPT CUSTOM DESIGN TO FIT YOUR NEEDS

386-33MHz, 128K CACHE 125 MB HD and MULTISCAN SUPER VGA

- 128K Cache
- 4 MB RAM, up to 32MB RAM on Board
- 1.2 MB & 1.44 MB High Density Floppy Drive
- 125 MB & 17 ms built-in 64K Cache
- Dual IDE FD/HD Controller
- AT I/O: 2 Serial/Parallel/Game ports
- 8 Expansion Slots, Real Time Clock & Calendar
- 101 Enhanced Keyboard
- Middle Tower Case with 230-watt Power Supply
- 80387 Co-Processor Socket
- 16-bit Super VGA Card with 1 MB RAM
- 14" Multiscan 1024 x 768 Super VGA Monitor, 0.28 mm dots

SALE PRICE----- \$1595.00

386-40MHz (same as above) ----- \$1695.00

486-33MHz, 256K CACHE 212 MB HD and MULTISCAN SUPER VGA

- Intel 80486 Processor with built-in 487 Math Co-Processor
- 256K Cache RAM
- 4 MB RAM, up to 32 MB RAM on board
- 1.2 MB & 1.44 MB High Density Floppy Drive
- 212 MB Hard Drive, 15 ms built-in 64K Cache
- Dual IDE FD/HD Controller
- 101 Enhanced Keyboard
- AT I/O: 2 Serial/Parallel/Game ports
- Full Tower Case with 250-watt Power Supply
- 16-bit Super VGA Card with 1 MB RAM
- 14" Multiscan 1024 x 768 Super VGA Monitor, 0.28 mm dots (CTX 14" non-interlaced)

SALE PRICE----- \$2295.00

One Year Parts and Labor Warranty.

Quality Minds Enhance Your Business.

Pasadena Computer Center serves for consultant, school and all business, offers Competitive Price & Quality Service. We also do Novell Networking Installation, System Integration and Database Design. Please call us at any time or visit our 3800SF showroom & Service Center. Thank you for your business.

Buy Caltech cards and save, save, save!

BURGER

Buy Caltech cards and save, save, save!

CONTINENTAL

TO ALL CALTECH STUDENTS, FACULTY, AND STAFF:
At all times, seven days a week

BREAKFAST	\$2.19	with soft drink or coffee
LUNCH	\$4.95	with soft drink
DINNER	\$6.25	with soft drink
Breast of chicken, seafood, lamb, or the day's special		

PIZZAS
Homemade variety pizzas

SPECIALTIES
Shish Kabob, Shaorma, Souvlaki-Steak
Fresh Fish and Lamb, Baklava, Gourmet Hamburgers
We cater for all occasions

Faculty, Grad Students, Attend! 535 S. Lake Ave.
Monday and Tuesdays are Beer Days. Half price on beer. (818) 792-6634

Swimmers Come on With Strong Start

Just before Christmas break the swim team took their act over to Whittier College for a tri-meet with the Poets and Cal State L.A. Both the women and men came away with hard-fought victories against Whittier: women 74-66, men 95-46. The women almost pulled off the upset of the year, just losing to the large, fast, Division II CSULA: women 73-79, men 72-93.

Event winners included Alan Kulawik in the 200 meter freestyle, Jasmine Anderson in the 50 free, Mike Ng in the 100 backstroke, Karen Ross in the 100 breaststroke, and the 400 free relay of Eric Aamot, Chris Buchner, Tamaki Murakami, and John White.

The women's meet was close, with Whittier and Caltech ex-

changing second place with almost every race. Cal State L.A. pulled out to a comfortable lead, because of a core of fast distance freestylers. A strong race from Vania Lee and Lesley Preister in the backstroke and a win from Karen Ross and a fourth from Jen Mullin in the breaststroke proved to be the crucial points. The points helped the Techers pull away from the pesty Poets and closer to CSULA. The final race was a 200 meter relay, and while both of the Caltech squads swam well they could only cement the final outcome. Swimmers of the meet included Vania Lee and Karen Ross, while Mark Savellano and John White took honors for the men.

The Tech meets Mon. at 7:30 in SAC room 15— Write for the Tech !!!!!!!

Rag Time on Green

RESALE CLOTHING for WOMEN

1136 E. Green St. • Pasadena (818) 796-9924
Wed 10-6 • Mon-Tue-Thu-Fri 10-5 • Sat 10-3

ACADEMY BARBER SHOP

27 N. Catalina Ave., Pasadena
Open Tues.-Sat., 7:30 a.m. - 4:30 p.m.
449-1681



MANDARIN CUISINE AND SEAFOOD

LUNCH SPECIAL
Choice of 13 entrees
11:30 a.m.-3 p.m. from **4.25**

EARLY BIRD DINNER SPECIAL
Choose from 13 items
3-7 p.m. DAILY ONLY **5.75**

Two-Star Award Winner Sunday-Thursday 3-10 p.m.
by the Southern California Restaurants Association Friday-Saturday 3-10:30 p.m.
Between Altadena Dr. & Sierra Madre Blvd.
2475 EAST COLORADO BLVD., PASADENA
FOR RESERVATIONS: (818) 449-8018
Open 7 Days • Cocktail Lounge • Food To Go Orders Welcome • Free Parking in Rear

The Haircutters **STUDENTS — GET \$4.00 OFF WITH THIS AD**

Shampoo, Style Cut
MEN Reg. \$20.00 NOW \$16.00
WOMEN Reg. \$25.00 NOW \$21.00
449-6967
1009 E. COLORADO • PASADENA
Offer valid only Monday-Friday, expires June 30, 1992

THE CALIFORNIA TECH
CALTECH 40-58 SAC
Pasadena, California 91125