

CALTECH BEAVERS SCUTTLE LA CANADA DUCKS

Gnomes??!!?

Gnome Club Starting Career Assistance Programs

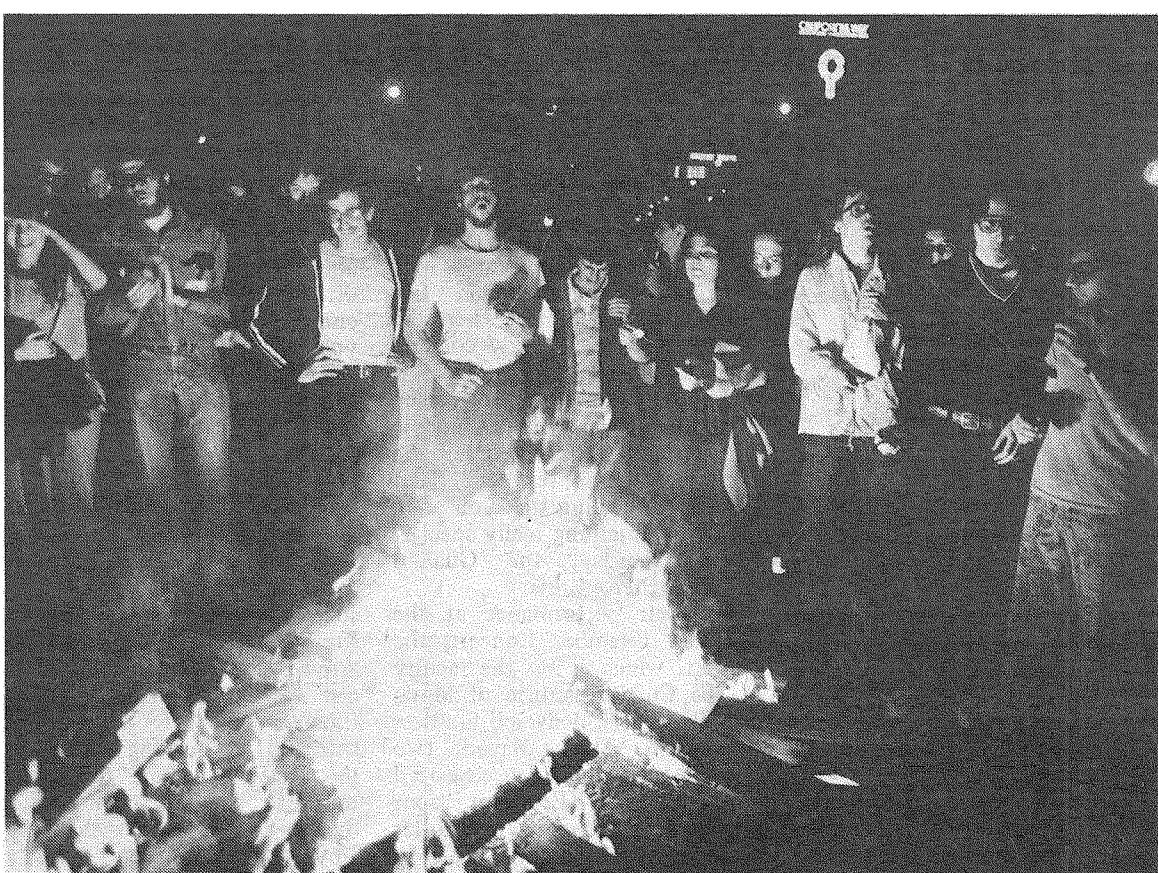
The Gnome Club, a Caltech alumni organization dedicated to helping Caltech students, is launching a program of career seminars and career counseling together with the Caltech Y.

The first seminar, slated for Wednesday night (November 15) at 7:30 in the Y lounge will deal with the prospects and problems of careers in business and finance. Two Gnomes (pronounced "know-mes"), Paul Levin, B.S. '72, and David Morrisroe, Institute Vice President for Financial affairs, will present a brief outline of the activities of professionals in management and business, with a special emphasis on describing how Caltech grads have faired. Both seminar leaders will then be available to answer questions for people contemplating business careers and to provide some preliminary guidance for those seeking management positions or going on to business school.

Both men are exceptionally well qualified to discuss management as a career for technically oriented individuals. Levin received his undergraduate degree from Caltech in Electrical Engineering, followed by an MBA from the Harvard Business School in 1974. After several years in various management positions with International Rectifier, Paul now works for the TRW Electronics Group. Dave Morrisroe, a Harvard MBA of somewhat less recent vintage, has been guiding the financial affairs of the Institute and JPL for nine years and currently teaches Business Economics and Management (BEM 100).

Real World 101

The Gnome Career Seminars will address the task of providing Caltech undergraduate and graduate students with realistic and useful information about "the Real World". It seems that few people end up doing what they thought they would be doing while they were in school. An often-heard comment about the educational process at



The Bonfire and Marshmallows of Victory.

Photo by ed.

by Red Kleats

Last Saturday, the Caltech football team overwhelmed the La Canada Ducks winning with a score of 33 to 14. This gave the team its first win this season, bringing their record to 1 win, 4 losses.

Caltech dominated the entire game, scoring 3 touchdowns in the first quarter. On the 6th play, the Beavers scored with a 22-yard pass from Mark Fortunato to Jim Abbot. After failing to make a first down in the next series, La Canada attempted to punt. The snap was high, and Caltech's Bill Graham recovered the ball in the endzone for the second touchdown. The team's third one came with three minutes left in the quarter, on a

2-yard pass by Fortunato to John Zacharias.

By the middle of the third quarter, Caltech had made two more touchdowns, Curt Trimble scored in the second quarter with a 4-yard run, and in the third quarter Terry Thomason carried in a 1-yard pass. Peter Drapes made 3 of the 5 extra point kicks, bringing the score to 33-0.

Late in the third quarter, Canada made a comeback with a 30-yard touchdown run by Daryl Richard. They scored once more late in the 4th quarter on a 19-yard pass to Kelley. With a 2-point conversion, this made the final score 33 to 14.

The strong Caltech defense held the Ducks to 9 first downs

for the game. Leading the team in tackling were Mark Boslow, with 6 tackles, and Terry Thomason, with 5 tackles. Other strong defensive players were Rick Alviso (4 tackles, 3 assists), Curt Trimble (4 tackles, 2 assists), and Les Poltrack (2 tackles, 4 assists).

Caltech sacked the La Canada quarterback twice, for a loss of 14 yards. The team recovered 2 of Canada's 5 fumbles, and intercepted 2 of their 14 passes. The Beavers completed 7 of 14 passes for 94 yards, and made 19 first downs.

Today on Caltech's home field, we will be playing the La Verne JV. The game starts at 1:30.

satisfactions and frustrations of their work.

These seminar leaders will also be available to students on a one-to-one basis to help students learn more about real world employment.

By providing contact with highly successful and knowledgeable Gnomes, it is hoped that students will be able to more rationally select a career and more adequately prepare for it. Walt Meador, Director of the Caltech Y and a Gnome, is the person to contact on campus to arrange one-on-one meetings.

See Gnomes: Page 9, Col. 5

C.C. Takes Fourth in SCIAC Finals

**Bourret Ignores Heat, Dust
Sets New School Record**

by Thor Feat

In a close SCIAC finals meet last Saturday, the Caltech cross-country team took fourth place in the meet and third in the overall conference standing. The score was Occidental 31, Pomona 48, Claremont 95, Caltech 99, Whittier 123, La Verne 176, and Redlands 181. Jerry Harnett of Pomona won the meet, setting the Caltech's home course record of 24:19 for the 4.56 miles. Senior Rob Bourret paced Caltech, setting the school record for the home course at 26:13, and finishing in 9th place.

The day was very hot, and the course was very loose, hilly, and dusty, so many runners suffered and ran slower than usual. Junior Bill Gould, who has run very consistently all season, proved himself immune to the adverse conditions, finishing 16th in 26:49, beating his track season rival, NAIA District III steeplechase champion Nick Buchan of Pomona by 20 seconds. Just behind Buchan was Caltech's Glen George, 18th in 27:12. Rich Holmes, 26th in 28:17 and Eric Korevaar, 30th in 28:46, rounded out the Caltech scoring five. Brian McLain, 37th in 30:26 and Randy Field, 39th in 31:35, did not score for Caltech.

The team finishes the season tomorrow when they race at the NAIA District Cross Country Championships at La Mirada Park in La Mirada. Azusa Pacific and Point Loma are favored for first and second, but around third place it will be a real dogfight between Cal Lutheran, UC San Diego, Fresno Pacific, and Caltech.

Next week is the cross-country pentathlon, a five-event series of track events: the two-mile on Monday, the mile on Tuesday, the 1320 (3/4 mile) on Wednesday, the 880 on Thursday, and the 440 on Friday. All races start at 5:30 pm at the Caltech track and all comers are invited.

More Names

To the Editor:

The kind words in Ray Beausoleil's comprehensive Inauguration article last week about the Office of Public Events were most appreciated by our staff. I thought you might like to know the names of some of our people involved in presenting the Inauguration activities.

Our technical staff, headed by Tom Lehman, was composed of Andy Allum, Gordon Cordell, Don Delson, Bill Hewlett, Charles Seagrave and Dave Spellman. Our off-campus sound consultants were Hollywood Sound Systems, with Gene Countelenc and Jack Haffamier working on the jazz concert and the Inauguration itself.

Our crowd control staff was made up of the following Caltech students: Clifford J. Beali, Jan N. Bjernfalk, John F. Fill, Christopher Finch, Ari Fuad, Gregory J. Galvin, John Graves, Ted D. Hesselroth, Paul de la Houssay, Jill T. Ibers, David S. Kamins, William C. Ledeboer, Terry J. Ligocki, Pamela Logan, Bruce D. Martin, Kevin B. Martin, Paul H. Nicholas, Vincent C. Nye, Sethu Palanippan, Eric Saund, David N. Shenton, Dean T. Uehara and Robert Weaver—all working under the direction of

Public Events Assistant Manager Joe Farmer.

Involved in the general planning and operations were the rest of the Public Events Office: Suzette Cummings, Pearl Fles, Lucy Freeman, Chris Harcourt, Lu Hayward, Kitty Macdonnell, Janis Rafferty, Monica Sandello and Debby White.

We also "borrowed" the following people from various divisions and administrative offices on campus, to assist us in the marching party marshaling area: Rae Bergum, Sophia Bien, Flora Boyer, Susan Davis, Sally Ghan, Jan Glaviano, Delorah Goforth, Ingrid Gumpel, Polly Hansen, Valera Hall, Georgia Hutchinson, Virginia Kotkin, Pat Lee, Carmen Longo, Shirley Marneus, Marc Otto, Edith Taylor and Barbara Yandell.

This, obviously, is just a sample of the people involved in putting on the Inauguration Ceremony. I'm sure that the Public Relations Office, Physical Plant, the Bookstore and the Athenaeum have numerous names to add for their respective parts in the festivities. The kudos you expressed really belong to all of these people.

—Jerry Willis
Public Events Manager

On the ERA

To the Editor:

Any society dedicated to the preservation of human rights must strive to protect equally the rights of all its citizens. An amendment which seeks only to better—or worsen—the lot of one particular group of people therefore contradicts the fundamental spirit of the Constitution. It is clear then, that the ERA should neither be accepted nor rejected on the basis of its effects on the social, political, or economic status of women.

The real benefit to be gained through the passage of an Equal Rights bill is the elimination of an arbitrarily established inequality among the nation's citizens. There are no special provisions required by all women and few required only by women. The laws protecting small people, child bearers, and family raisers, for instance, need not and should not make sexual distinctions. The law must be made sexually neutral, even if

women are not benefited, because it is the only just course of action.

The only legitimate criteria for legally discriminating between two individuals are the characteristics of those individuals; not of the averages of majorities of groups to which they belong. The present ERA fails by mentioning only sex; becoming itself discriminatory. It should read:

In no situation shall any citizen be denied equality under the law on any basis other than the characteristics of that individual which are relevant to that particular situation.

Pragmatically, implementation of an ERA would cause serious problems. Expediency, however, is no excuse for injustice. In the shadow of frightening new threats to the rights of various unloved minorities, we must explicitly reaffirm our belief in the principle of Universal Equality under the Law.

—R. C. Colgrove

The Flunking #s

To the Editor:

I would like to correct an error which crept into the article in the 13 October issue. The correct figure is that about 60% of our incoming freshmen graduate in four years rather than 40% as quoted in the article. In the heat of our discussion between Rock Howard and myself the percentages became inverted.

—Jim Mayer

[*The actual figures, from the Registrar's Office, and processed by an expert in the field, are: 55% graduation in four years (a 10-year average; only 51% of the class of '78 got out last June) and 65-68% graduation from Tech at all. Of the people who never graduate from Tech, about one-half petition for, but are denied, reinstatement.—ed.]*

Guarneri Great

Ever gotten a perfect score on a test? Watched a Formula 1 automobile race? Been present at a really good lecture? Sailed a small boat in a high wind? Sat and looked at a Van Gogh painting for more than five minutes? Eaten a meal where the vegetables were properly cooked, and had some texture left?

In short, have you ever seen something done with such style and perfection that you felt the excitement that resulted? That spectacular feeling that you are a party to something really special? On Tuesday, the Guarneri Quartet achieved this.

In their performance at the Coleman Chamber Concert, the quartet, which is on the faculty of the Curtis Institute of Music in Philadelphia, delivered faultless Beethoven. They played two Quartets, the second "Razumovsky" (E minor, opus 59, number 2) and the B-flat opus 130.

The first piece, the Razumovsky, allowed us to see the group's balance. It was well arranged, no part dominating the other three. After the intermission, the B-flat was played. It was written in Beethoven's last group of quartets in the 1820's. The fifth movement of this quartet is excellent; very smooth, very balanced, and it was played as it deserved to be played. The *Grosse Fuge* (opus 133), originally the final movement of the opus 130 quartet ended the program. Beethoven replaced it when string musicians of his time complained of its difficulty. We are fortunate to have musicians today capable of playing it.

The New York Times has said, "Singly and as a group, the Guarneri has no superior on the world's stages." They are correct once again.

—J. Copeland

Thuncan by P.M.



Random Numbers

Well, all I have to say is that I better not hear any complaints about this one. It's typed, sort of. For lack of time and much else to write about, this week you will be treated to the tale of how Pasadena's finest caught on fire at the bonfire Saturday night.

When the fire was lit, one of the fuel cans was dropped and it caught on fire. This was, needless to say, a hazard. In the time before the fire department arrived, both myself and someone else were caught on fire. When the fire department arrived, the extinguishing of the can was left to them. One of the firemen decided to kick the can, half full of burning fuel, down the street to where the rest of the fire had been and where there was a fireman with a hose. Unfortunately, there was a policeman in the way. His pants were covered with burning fuel and after performing a short dance routine, he was hosed down by the firemen. Perhaps this is why the police were so nasty to us on the way back. If you haven't heard the story, just ask anyone who attended. Opinions on this issue are heated in each direction and I intend to live past Christmas, if at all possible. However, I will say this, I understand that he was cited for "Walking in the rodeway" (sic). I didn't think that there was anyone else who spelled as poorly as I do in the world. Perhaps you think that this is a little short. Well, you're right. However, there are reasons for this. The first and foremost is that Interhouse is coming up and I am one of the work chairmen. Another is that I'm going to have to type that 17 page article myself. I understand that the

The CALIFORNIA Tech

Volume LXXX Number 8
Friday, November 10, 1978
Published weekly except during examination and vacation periods by the Associated Students of the California Institute of Technology, Inc. The opinions expressed in all articles are strictly those of the authors and do not necessarily reflect those of the editor or of the corporation.

Editor-in-Chief
ed. Bielecki

Writers

Ray Beausoleil, Eve Bennett, Susan Grace Boyer, Jeff Copeland, John Avery Deane, Bill Gould, Patrick Frantz, Frank Haggerty, Rock Howard, Chris Juten, Don Korycansky, Mike Kurilla, Duncan Mahoney, Karen Pickens, Robert Tajima, Richard Wilson, David Young

Photographers

Joe DiGiorgio, Alan Loh, Yvonne Shih, Dave Wheeler

Production

Nick Smith, Fred Vachss

Business Manager
Al Kellner

Head Paper Boy
Carl Lydick

The California Tech
Publications Office: 115 Winnett Center 107-51, California Institute of Technology, 1201 East California Boulevard, Pasadena, California 91125. Telephone 795-6811, Editor-ext. 2153, Business Manager-ext. 2154. Printed by News-Type Service, Glendale, California. Second-Class postage paid at Pasadena, California.

Subscriptions
\$1.50 per term
\$4.00 per year
\$100 per life

ASCIT MOVIE

Friday Night
Baxter Lecture Hall
7:30 & 10:00

**ASCIT Members 50¢.
Others \$1.00**

Woody Allen bananas

Lenny

Science and Society

Man's Favorite Pastime-Sex

This issue begins a series that attempts to cover a wide (but hopefully not too rambling) area of scientific and moral controversy. It starts with a discussion of that recent 7-day wonder, the "test-tube baby," proceeds to an analysis of genetic engineering and investigates the general question of how society is to form policy regarding new avenues of research. Finally a specific proposal for the creation of a scientific court-of-law will be given, along with some insights into the present system of judging conflicts that involve both technology and morality.

The births in Britain and India this past summer of two test-tube babies have caught the public imagination as few events ever have. In doing so they have focused attention on the larger issue of biological advances and, indirectly, of genetic engineering.

It is, of course, possible that these events were fraudulently purported, but for academic interest it will be assumed that they were, indeed, genuine. A "test-tube baby" in this case merely means a fetus conceived outside the mother's body and medically implanted into the womb. Researchers are required to attain successful fertilization under laboratory conditions and then provide for normal *in vivo* growth of the embryo.

Immediately as the scientific announcement was made, theologians, philosophies and moralists raised interesting questions. How did conception outside the body affect the soul of the developing child? Would this technique cause defects and mutations in the fetus? Could this technique be used for "the wrong" (i.e., non-medical?) purposes?

It is perhaps easiest to answer the third question first. In the first two known cases this technique was used for a very legitimate medical reason: to provide women with blocked Fallopian tubes the chance to have children. There was little reason to expect any other major

purposes to arise. As to the second question, the mere presence of two healthy babies (although in no way statistically significant) suggests that this technique can be used safely. The religious question, of course, is the most difficult to answer, and must be debated by the theologians. My personal opinion is that if the soul enters upon conception, then *in vitro* conception will not prove a barrier to God.

The smug scientist might sit back and smile to himself at this point; but wait, the philosophers are not so easily defeated. What about the future, they ask. Might not this take away from the beauty and "humanity" of natural conception? Also, suppose that women unable to bear their own children have their eggs fertilized and implanted in another woman's womb. Who "owns" the baby, what rights does the surrogate mother have to abort the fetus, how will lineage and inheritances be determined?

The scientist, more sober now, sees the value of these questions. It seems unlikely that the first will ever cause problems; sex is not likely to diminish as man's favorite pastime, and only a tiny fraction of all births is ever likely to be initiated this way. Sex is much easier and cheaper. The second problem is tougher. There simply doesn't exist any real judicial precedent, for the problem has never been dealt with before. In all likelihood this controversy will rage for years as women begin to take advantage of these techniques. What laws should be passed? It will take a major combined effort by religious leaders, doctors, lawyers and philosophers.

It will take a scientific Court of Law. The detailed analysis of this term must wait for the next essay, but its general outline can be given here. It involves the modification of our present legal and judicial system to include a sub-branch containing the above-mentioned scientists,

THE CALIFORNIA TECH

philosophers, lawyers and theologians. It involves the analysis of present issues and possible future controversies involving scientific advances; this analysis would be started before the first major legal skirmishes are brought to the court system. It would have a strong advisory input to the legislature. It would be a radical departure towards a radical future.

-Pat Frantz

Poets!

We are interested in informal meetings with other writers who would like to share their work and make useful criticisms. Faculty, grads, undergrads and others are all invited. Call Vicki Siders at x2340 during the workday or call Eve Bennett at 449-9368.

"We Have Ignition?..."

The CIT Deep Space Team will be clandestinely launching various high technology rocket-propelled research and entertainment vehicles on Sunday, Nov. 12 from an as yet, undisclosed desert complex. Those without security clearance may contact Ralph Weeks in 115 Lloyd for further information. Reminder: free flight accessories for DST members.

Your business travel deserves professional handling.

Fast, accurate, reliable.

Serving Caltech for over thirty years
Campus extension 2226



Equipped with SABRE computerized travel system — the most advanced idea in travel since the jet — our experienced agents can handle all the details of your itinerary with speed, accuracy, and reliability.

690 East Green Street, Pasadena, CA 91101

EXPERIENCE PLUS AUTOMATION

**20% Discount on
Caltech Card**

CALTECH'S

BURGER CONTINENTAL

ATTENTION ATTENTION ATTENTION ATTENTION ATTENTION
Every Wednesday is a special Caltech day
at Burger Continental.

Special Buffet ★ All You Can Eat ★ Wednesday Only

House of the week RICKETTS

Free root beer float with dinner

Attention Graduate Students: Tuesdays are Beer Days. Buy 1 pitcher, get the second one free!

B.C. will still serve its regular menu.



THE MOVIES

Magnificent Mercenary
The Wild Geese

The Wild Geese is an action-packed African mercenary adventure starring: Richard Burton, Roger Moore, Richard Harris, Hardy Kruger and Stewart Granger. The preview program gives a short history of mercenaries and states that this film "is the first accurate portrayal of modern mercenary soldiers." The program also contains quotes from two articles in the *New York Times*. From these articles I learned that there is a "Wild Geese Club" whose members are some of the survivors of the mercenary units that fought in the Congo under Col. Michael (Mad Mike) Hoare.

These men meet regularly in Johannesburg to reminisce their romantic adventures. For Col. Hoare these adventures are not over. He claims that he is capable of raising a mercenary army and taking over any country in Africa, except South Africa and Rhodesia, on a month's notice. He is still in business although he laments the present refusal of the CIA to employ mercenaries. Col. Hoare's latest assignment was to provide extras for *The Wild Geese*. Hoare believes that the mercenaries of today are more politically motivated than men were in the 60's. Currently, there are about 400 American mercenaries, calling themselves "The Crippled Eagles", who serve in Rhodesia against the Marxist guerrillas led by Robert Mugabe and Joshua Nkomo. These men feel that they are fighting an extension of the Vietnam War against Communism. The article, written by Robin Moore, who has recently spent two years with American mercenaries in Rhodesia, notes that of two ex-mercenaries of Rhodesia, one is now studying for his PhD in political science and the other is running for Congress in Florida.

See Wild: Page 9, Col. 1
See Foul: Page 9, Col. 2

Giggles & Klutz
Foul Play

A few months ago, I was sitting in a theatre minding my own business, when suddenly, a preview of an upcoming film intruded upon my senses. This movie, calling itself *Foul Play*, seemed to be an opportunistic vehicle designed to show off Chevy Chase and Goldie Hawn doing what they do best, klutting and giggling, respectively. I wasn't sure I wanted to see such a thing, and dawdled about seeing it once I had the chance.

Finally, I got around to going to see the thing, and got the surprise of my life! It was actually good!

The plot line is a very basic one at first glance: man in danger hides mysterious roll of film in innocent girl's purse; mysterious persons attempt to recover film. All the basic stuff of a thriller. Remember, however, that this is also a comedy of sorts, and that the leads are two young, popular comics. Thus, the thriller revolves around dwarves, albinos, traveling bible salesmen, massage parlors, and the world's worst swinger.

Foul Play is actually a fairly good spoof of those Steve McQueen and company movies about the police detective assigned to protect the pretty girl from the mob. There is even a mad car drive across San Francisco that puts *Bullitt* to shame.

Chase plays a detective, a suspended member of San Francisco's finest, who keeps tripping over a disillusioned young librarian, Goldie Hawn. People seem to keep dying in her lap or trying to kill her, and the bodies keep disappearing, much to her dismay and the S.F.P.D.'s amusement. Burgess Meredith turns in a wonderful performance as Goldie's landlord ("Karate

See Foul: Page 9, Col. 2

The Dancer Next-Door
Slow Dancing in the Big City

My first impression of "Slow Dancing" was that it was to be a cheap affair that would be mediocre at best. The invitation and program to the special preview were done in ordinary type on stock United Artists paper. I was not familiar with anyone involved in the film except for the Manhattan Dance Company, which I had heard of before. The program indicated that it was practically a one-man show. John G. Avildsen directed, edited, co-produced and operated the camera for the film.

The scene in the lobby before the show supported my fears. Nearly everyone seemed to know one another and they were greeting each other with the loud Hollywood version of the social kiss. The opening of the movie further deepened my doubts. The harsh clink of typewriter keys nearly obliterated the hero's (Paul Sorvino's) monolog. The keys soon subsided, but shortly thereafter came a scene where the heroine (Anne Ditchburn) was practicing her dancing to the literal blasting of Carole King's "I Feel the Earth Move." I began to feel that my ears would be unable to determine the sense of the movie.

Despite the initial shock, I managed to overcome the sound problems to determine and appreciate the story line. "Slow Dancing" is the story of the lives of a ballet dancer and a gruff New York journalist. The dancer is fighting to overcome age and leg pains to make her grand debut at Lincoln Center. The journalist, who focuses on optimistic human events in the Big City, such as an Eskimo saving a suicidal redhead, is romantically interested in this determined woman who moves next door to him. A sideline plot involves the journalist's concern for a talented ten-year-old from a ghetto whose life and promise is threatened by his older brother, a pusher.

There are many scenes of dance rehearsals which emphasize the dancer's determination and desperation to do well. She is performing in a show which was designed for her talents and movements, but she is not doing well. The choreographer-coach relentlessly demands that his star dancer perform well; if not, then a replacement will be found. The dancer silently endures her extreme pain with the grace of a queen being led to the gallows. Her determination results in a beautiful yet bittersweet triumph.

After the film's showing, Charles Champlin, the reviewer for the L.A. Times discussed the film with Avildsen and the author, Barra Grant. Grant wrote the script because she liked the "arena" of the dance and wanted to reveal the hard life behind the beautiful productions. Grant said that it is very true that dancers exist in a sad, short-lived world and undergo enormous pain. Grant took dance lessons when she was young, but was never good at it. She has acted since she was eight, but feels that

Adolf Again
The Boys from Brazil

The Boys From Brazil. A Producer Circle Production, released by Twentieth Century-Fox. Produced by Martin Richards and Stanley O'Toole. Directed by Franklin J. Schaffner. Screenplay by Heywood Gould, based on the novel by Ira Levin. Starring Gregory Peck, Laurence Olivier, James Mason, and Lilli Palmer. Running time: 129 minutes. Rating: R.

The Boys from Brazil is a swift-moving, smoothly flowing adaptation of Ira Levin's best-selling novel. Gregory Peck, as the infamous "Angel of Death" Dr. Josef Mengele, and Laurence Olivier (in a role based on famed Nazi-hunter Simon Wiesenthal) as Ezra Lieberman, are strong, formidable opponents when a decades-old plot enters a critical stage.

Barry Kohler (played with the right mixture of *chutzpah* and naivete by Steven Guttenberg), a young member of a radical Jewish defense group, manages to bug a Nazi top-secret meeting. There Mengele is briefing his Nazi cohorts on the next stage of his operation: the accident-like murders of 94 65-year-old men, in many countries, over 30 months. The intended victims are men of little distinction, all civil servants—and not one of them is Jewish.

Kohler's inexperience in this very deadly game is his death warrant. He contacts Lieberman, whose exploits in bringing Nazis to trial has inspired his own endeavors. Lieberman is skeptical, but when Kohler is killed (by Mengele's henchman) during the phone conversation, he is left with few clues and less doubt.

Mengele's plan is simple in concept, but with a low probability of success: to create a clone of Adolf Hitler, who will lead the Nazis back to power. To increase his chances of success, Mengele has created 94 clones from preserved samples of Hitler's blood and bone, and placed them (via adoption) in as near-identical family environments to Hitler's own that he can find—an older, domineering father, a much younger, indulgent mother. To replicate the political and socioeconomic factors, a variety of countries were used, in the hope that one (or more) would approximate post-World-War-I Germany at the proper time. And since Hitler's father died at 65, so must those of the Hitler-primes.

Admittedly science-fictional in concept, *The Boys from Brazil* is a straight suspense story, leading to a personal confrontation between Mengele and Lieberman in a Pennsylvania farmhouse, with their fate in the hands of a fourteen-year-old boy. The plot is not difficult to unravel, with the publicity Levin's book generated, and the current public awareness of the cloning potential. The movie even spends a few minutes explaining the actual cloning process on rabbits.

See Boys: Page 9, Col. 4

Poirot on a Camel
Death on the Nile

Agatha Christie is no longer with us, but her plots are still getting away with murder. A few years ago I had the pleasure of reviewing *Murder on the Orient Express*, one of the classics mystery movies of the decade, in these pages, and now director John Guillerman has brought us one of Dame Agatha's finest *Death on the Nile*. *Murder* was blessed with an excellent cast and first-rate settings as well (in my opinion, the train almost stole the whole show). *Death* features a cast which is almost as good, and settings (of the Nile and the great relics of ancient Egypt), cinematography and costumes which often approach the stunning.

But first things first, and in this movie the first things are not the leads, but the character parts. Bette Davis and Maggie Smith are standouts as an elderly, eccentric snob and her companion (a form of servant), and some reviewer thought that Angela Lansbury as an aging, alcoholic author of sexy novels was the star of the whole show. Imagine having those three, as well as David Niven (a detective, rather), Olivia Hussey, George Kennedy, Jane Birkin, and Jack Palance in supporting roles.

Viva Ustinov

Unfortunately, three of the four key parts are not so well cast. The exception is Peter Ustinov as the world-famous detective, Hercule Poirot. To old Christie fans, Ustinov does not look the part, but his performance, as always, is above reproach. The problem is with the romantic triangle which forms the center of the plot.

Lois Chiles as the rich grasping (first) victim is acceptable, but Simon MacCorkindale, as her fortunate (?) husband, was rather disappointing. Least satisfactory of all was Mia Farrow, who tried gamely but was in over her head as Ms. Chiles' poor, passionate friend who was originally engaged to MacCorkindale, and who follows the two on the fatal honeymoon up the Nile.

Instant Replay

The screenplay, by noted dramatist Anthony Shaffer, does a solid job of paring down the original book; several of the original characters are omitted but one hardly misses them. (Most of Agatha's books are short enough to be ideal for movies—and I'm sure we'll see more of them in the next few years—but this one is longer than usual.) The technique used in *Murder on the Orient Express*, of showing how the various suspects could have done the deed, is used again here, to good effect (although one does get rather tired of seeing Lois Chiles shot to death), and the final solution, though fair, is almost bound to surprise you, unless, of course, you know the original book.

As I write this, *Death on the Nile* is playing at the Academy in Pasadena, just north of campus on Colorado Blvd. Take a break and go see an enjoyable, classic mystery film.

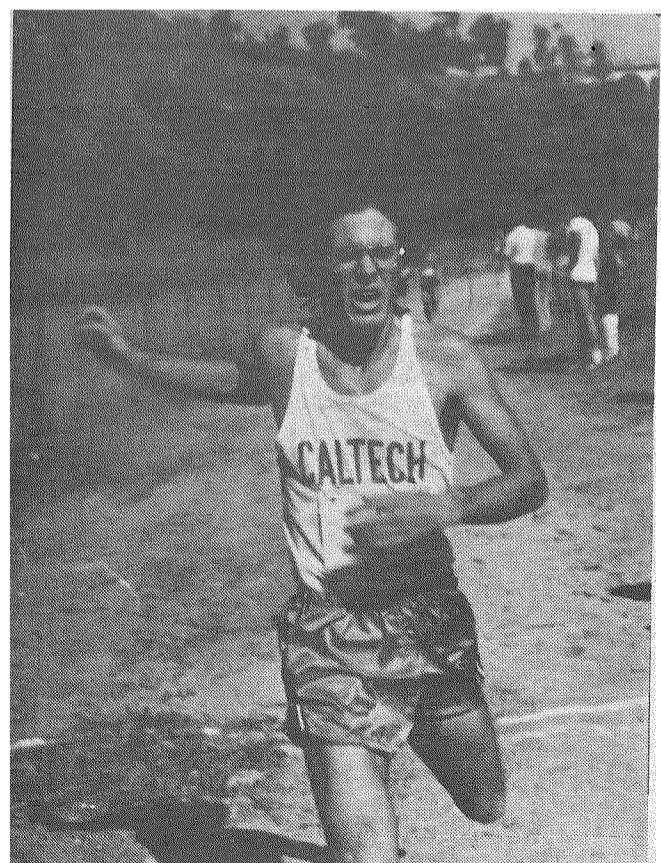
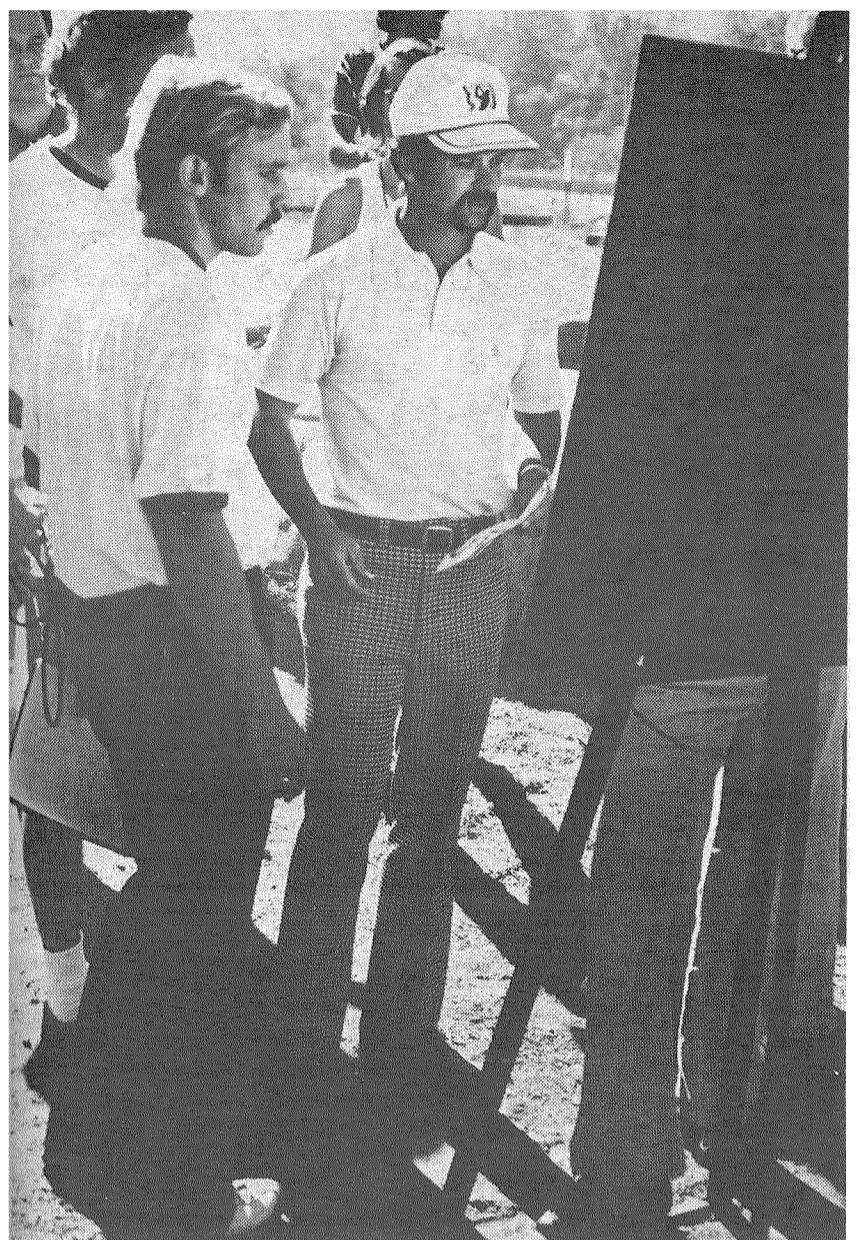
—Etaoin Schroeder

CAROLINE'S KITCHEN
EXOTIC INDONESIAN FOOD
**NEW RESTAURANT ...
FOOD TO GO**

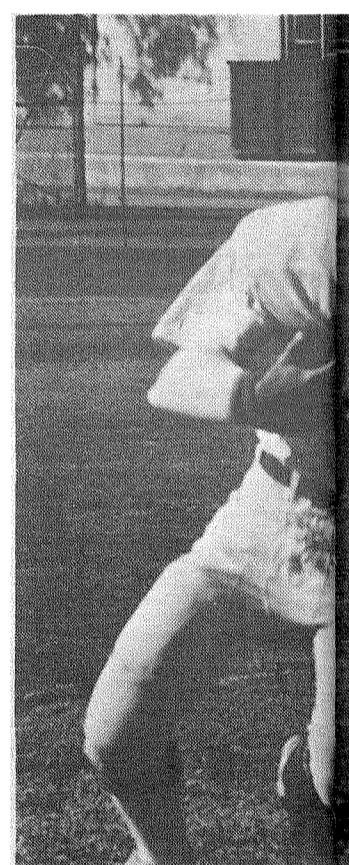
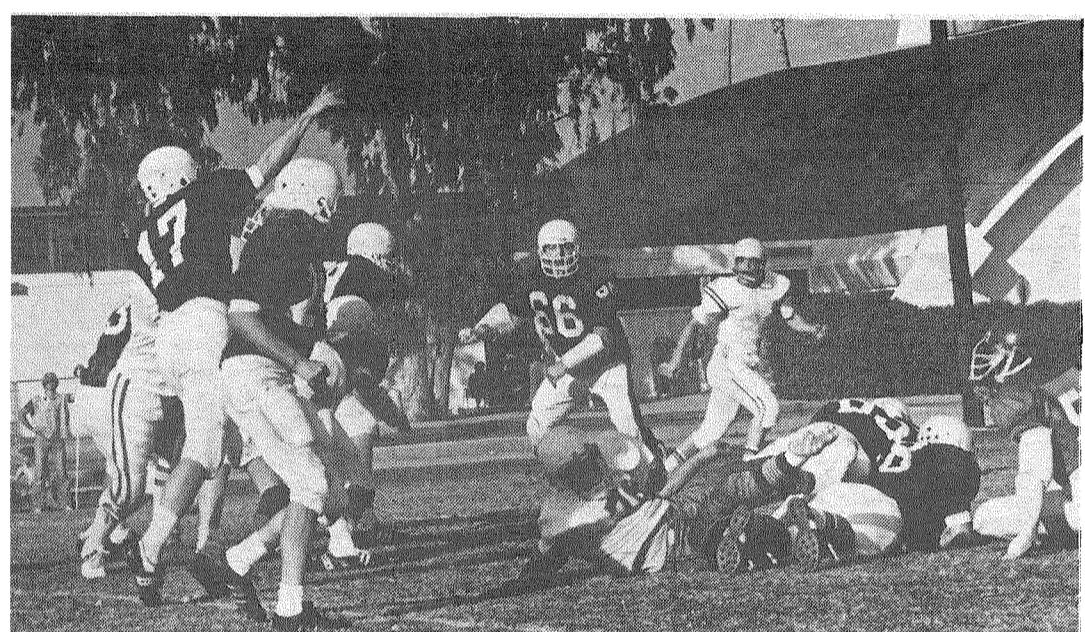
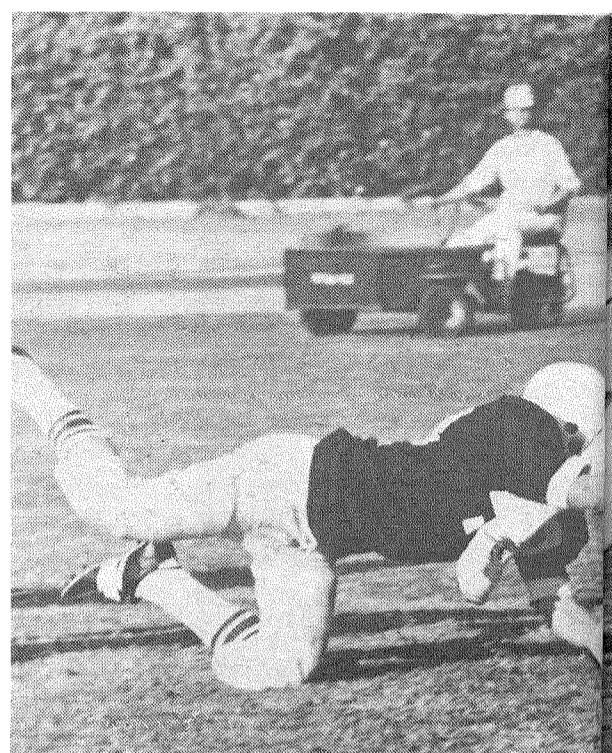
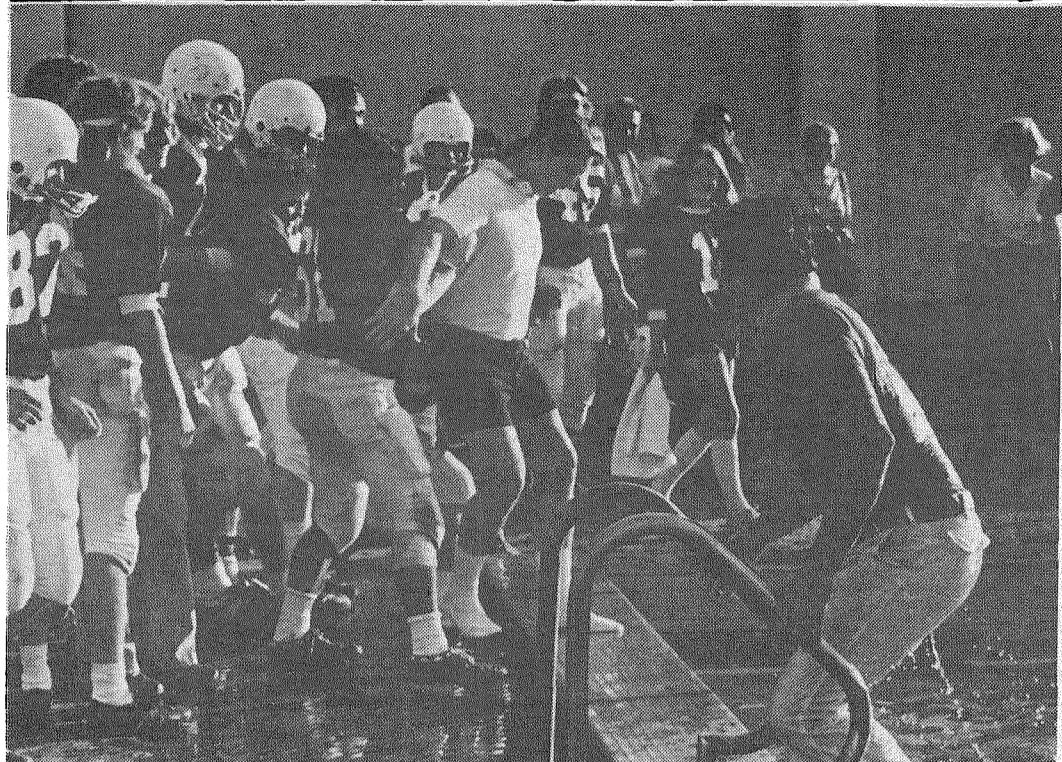
**OPEN TUES thru SAT ... 11 A.M.-9 P.M.
SUNDAY 2 P.M.-9 P.M.**

- **SATE BABI**, 4 sticks **ONLY 2.90**
Barbequed Pork on bamboo sticks with marinated ketjap or peanut sauce.
- **SATE AJAM**, 4 sticks **ONLY 2.75**
Same as above only with Barbequed Chicken.
- **LUMPIA**, Indonesian Egg Roll **ONLY 75¢**
Delicious and filling.

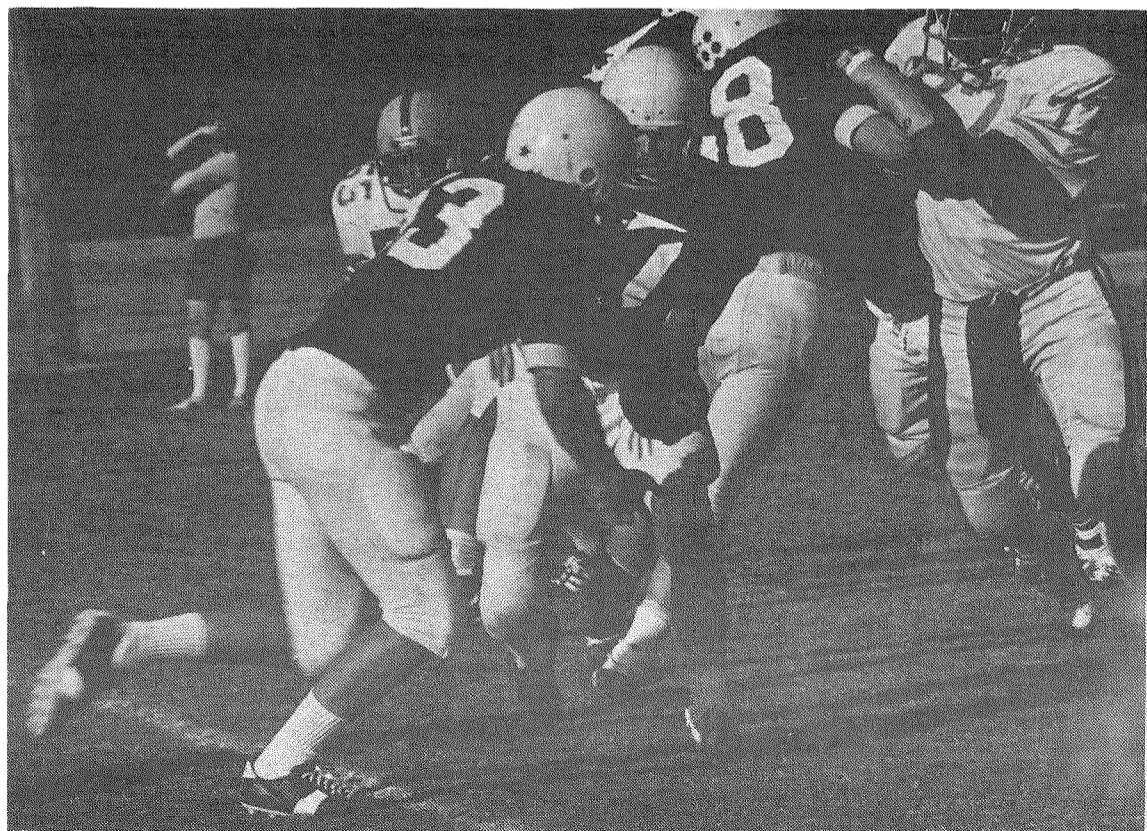
313 W. HUNTINGTON
MONROVIA
**• 358-1229
• 359-9762**

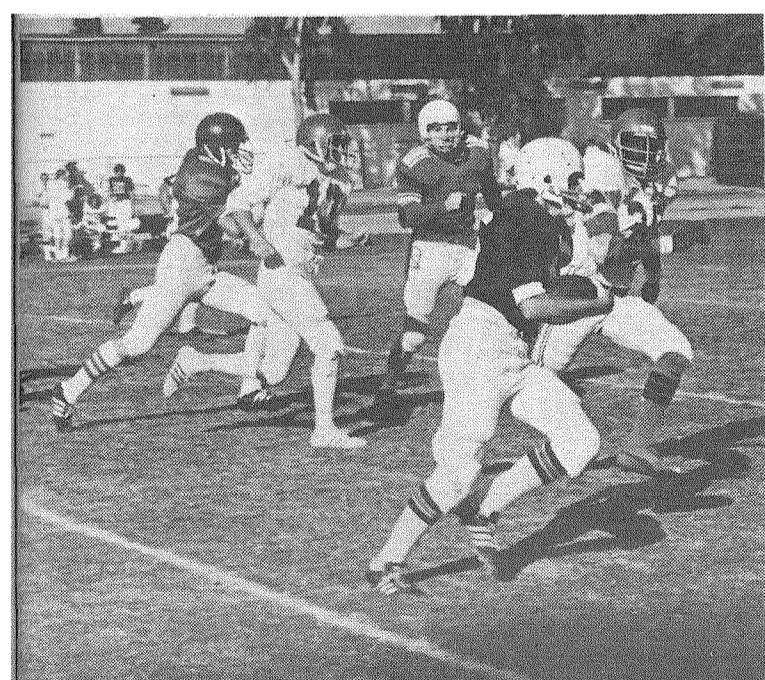
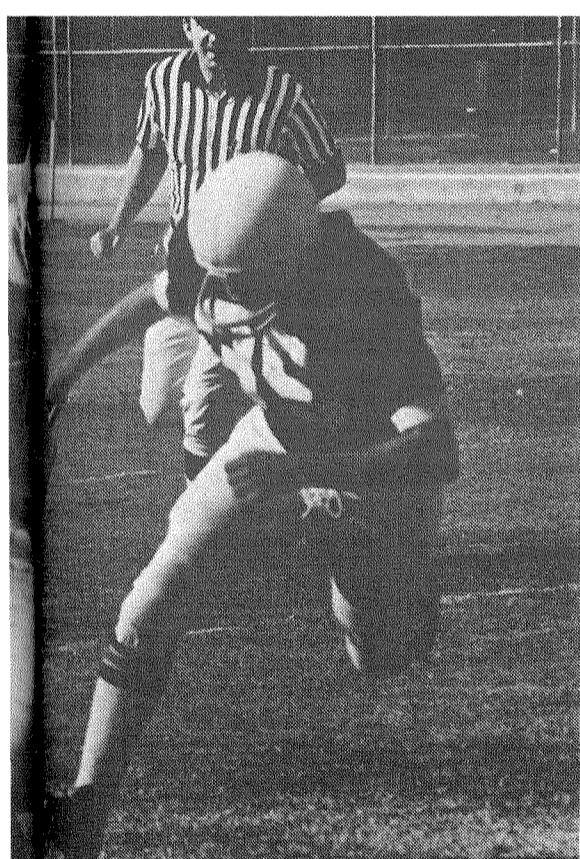
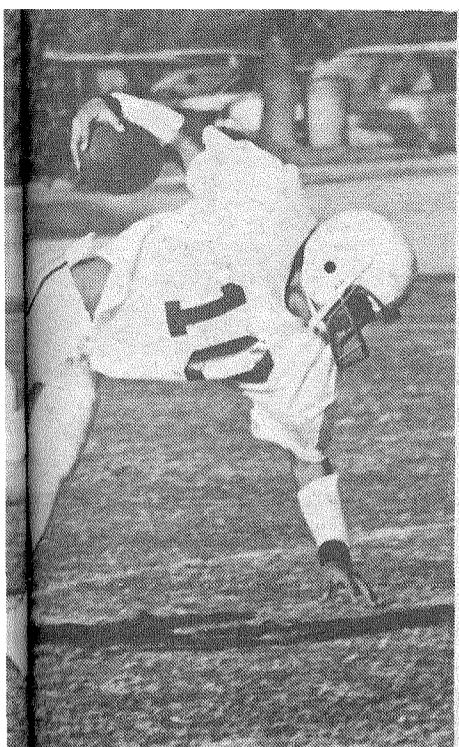


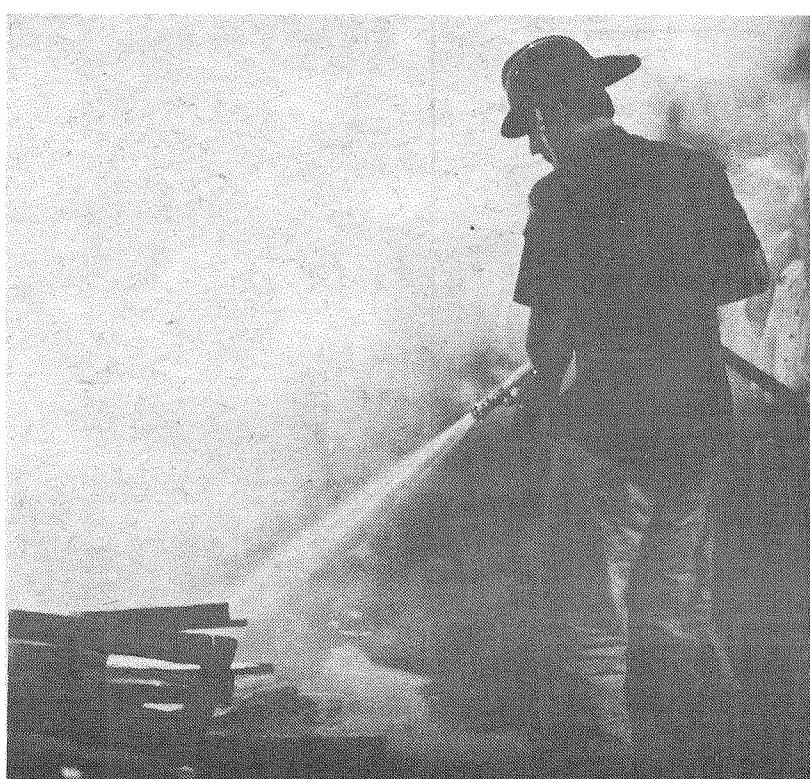
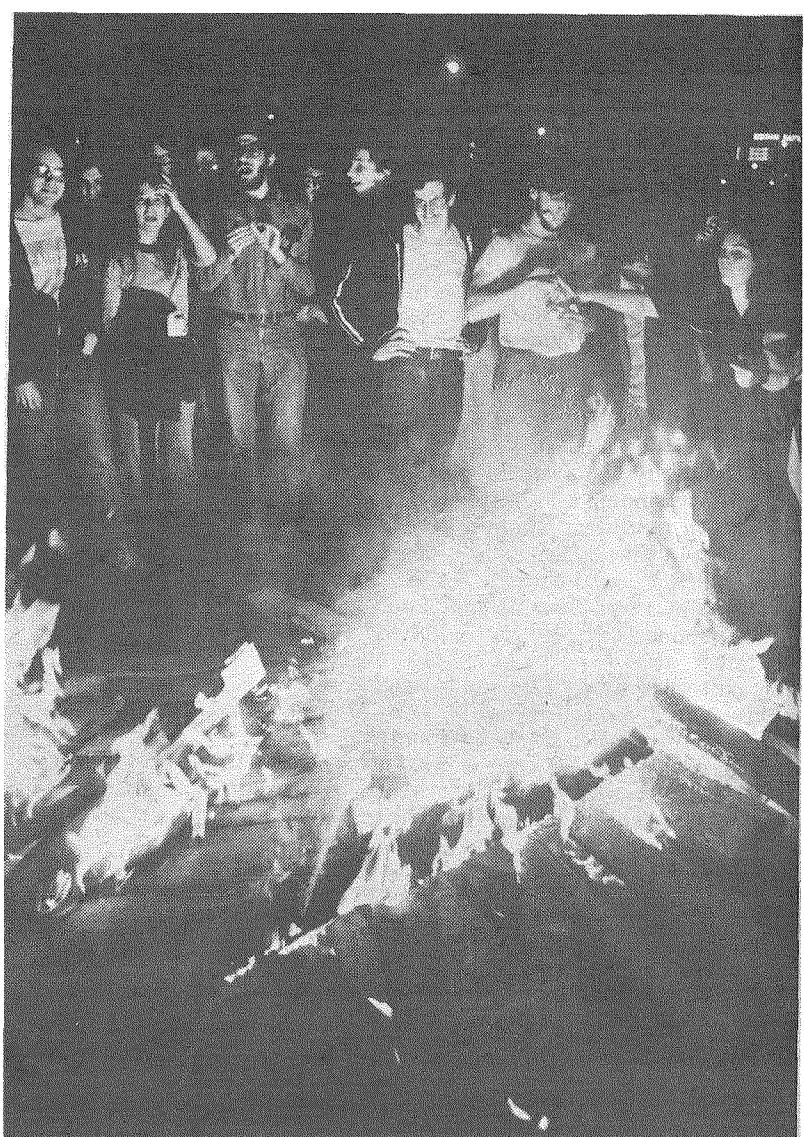
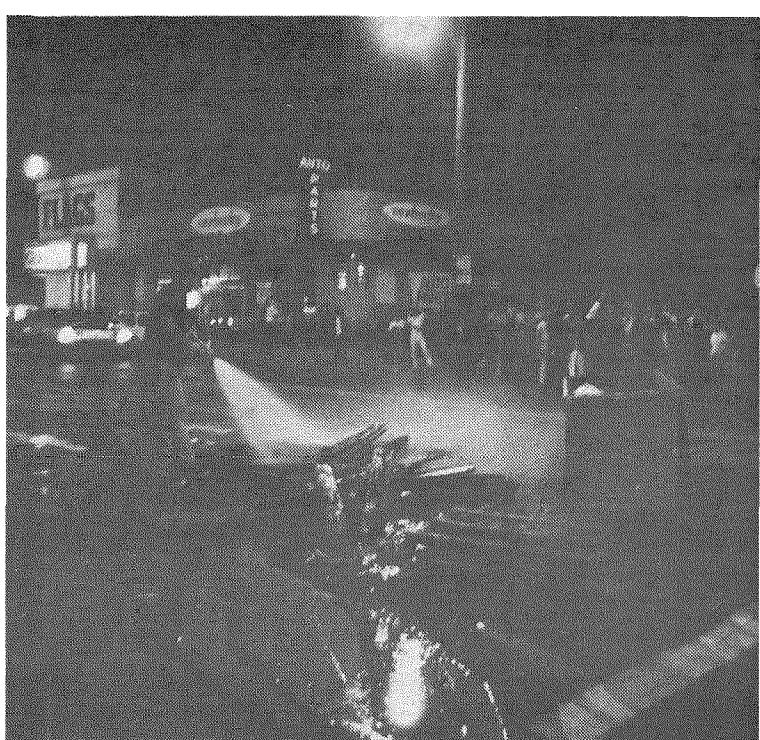
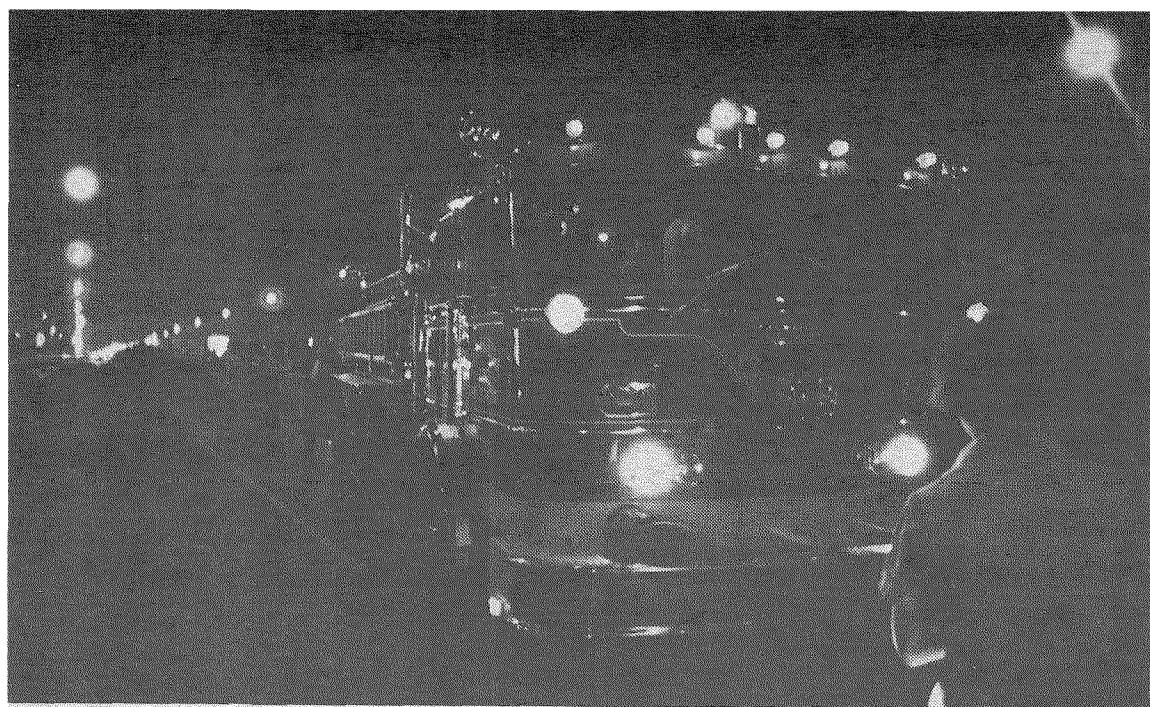
... Merf was here



Photos by
ed.
*Al Kellner
Alan Loh
Yin Shih
Dave Wheeler*







Murf was here



it's your move!

Top talent always makes the right move, and so does TRW. Every facet of what we are doing is on the cutting edge of now and the future...tuned into the wavelengths of the farthestmost reaches beyond. If you feel your career is in "check" position, think hard...then make your move. Because, at TRW, we are looking for top engineering talent with that intuitive quality of mind who are capable of making the synaptical leap into the future. There is space for you among your peers and lots of head room. Think about it. The point of power is acting now! It's your move!

WE WILL BE INTERVIEWING ON CAMPUS...

November 15 and 16

For the following disciplines:

ENGINEERING
AERONAUTICAL
CIVIL
ELECTRICAL
ELECTRONICS
MECHANICAL
MATHEMATICS
PHYSICS

COMPUTER SCIENCES

BS, MS, PhD—

At TRW, we have one of the most advanced high technology facilities in the world. Our products, from the smallest micro circuit to the largest satellite, are designed by the top notch teams of professionals...with a growing need for bright young people like you who can contribute new ideas and concepts. We are diversified enough for you to build a sound career and grow professionally as your responsibilities and contributions increase.

Consider carefully your career goals, then consider a company called TRW.

REMEMBER...top professionals are known by the company they keep. Especially when the company is called TRW, an equal opportunity employer offering excellent salaries and an outstanding Flexible Benefits Plan.

If you would like TRW to know about you, come by and see us when we're on campus or send us your resume:

MANAGER OF COLLEGE RELATIONS
R5/B180
ONE SPACE PARK
REDONDO BEACH, CA 90278

AN EQUAL OPPORTUNITY EMPLOYER

*A
Company
Called*

TRW

DEFENSE AND SPACE SYSTEMS GROUP

Quarks & Garbage Can Physics

by Karen Pickens

"Quarks: Science Fact or Science Fiction?" was the topic presented by Dr. H. David Politzer at a recent "Update". "Update" is a Caltech Y program of informal discussions held Wednesdays at noon in Clubroom 1 of Winnett Student Center.

Dr. Politzer discussed the search for quarks and the qualities they should have if they are found. He claimed, "We'd know one if we'd seen one," but admitted, "we haven't seen one."

Quarks are thought to be the constituents of nuclear matter, that is, the particles that make up protons and neutrons. To find them, physicists tried colliding two protons together. Unfortunately, they just bounced off each other. They tried colliding them harder, and then they tried colliding electrons with protons.

After the electrons were collided with the protons, they were studied in detail. The paths of the electrons gave clues as to what was happening to the protons.

This method of inquiry provides the physicist with pictures, but no equations. A friend of Dr. Politzer calls it "garbage can physics. You throw a garbage can at a garbage can and look at what happens—you get garbage all over."

Although quarks have not been found yet, scientists have some idea as to what they are like. They have names, or "flavors", such as "up", "down", "strange", "charm", "top", and "beauty". Their characteristics include spin, electric, weak, and strong charges, and "colors". The values for these can be listed in tabular form.

The existence of quarks has not yet been proved, and may never be. However, Dr. Politzer maintains that any new theory will have to account for the entries in the table of characteristics of quarks.

Earn Over \$685 a Month Right Through Your Senior Year.

If you're a junior or a senior majoring in math, physics, chemistry, or engineering, the Navy has a program you should know about.

It's called the Nuclear Propulsion Officer Candidate-Collegiate Program (NUPOC-C for short) and if you qualify, you can earn as much as \$685 a month right through your senior year. Then after 16 weeks of Officer Candidate School, you'll receive an additional year of advanced technical education. This would cost you thousands in a civilian school, but in the Navy, we pay you. And at the end of the year of training, you'll receive a \$3,000 cash bonus.

It isn't easy. There are fewer than 400 openings and only one of every six applicants will be selected. But if you make it, you'll have qualified for an elite engineering training program. With unequalled hands-on responsibility, a \$24,000 salary in four years, and gilt-edged qualifications for jobs in private industry should you decide to leave the Navy later. (But we don't think you'll want to.)

For more information, contact Lt. Tim Norrbom at (213) 468-3321 (collect stat-to-station). If you prefer, send your resume to Lt. Tim Norrbom, 4727 Wilshire Blvd, L.A., CA, 90010, and he will contact you directly. It can do more than help you finish college: it can lead to an exciting career opportunity.

Outside In

by Christopher Juten

The Watson Lecture Series continued Wednesday with "From the Outside In" by George A. Seilstad, PhD, Research Associate in Radio Astronomy at Caltech.

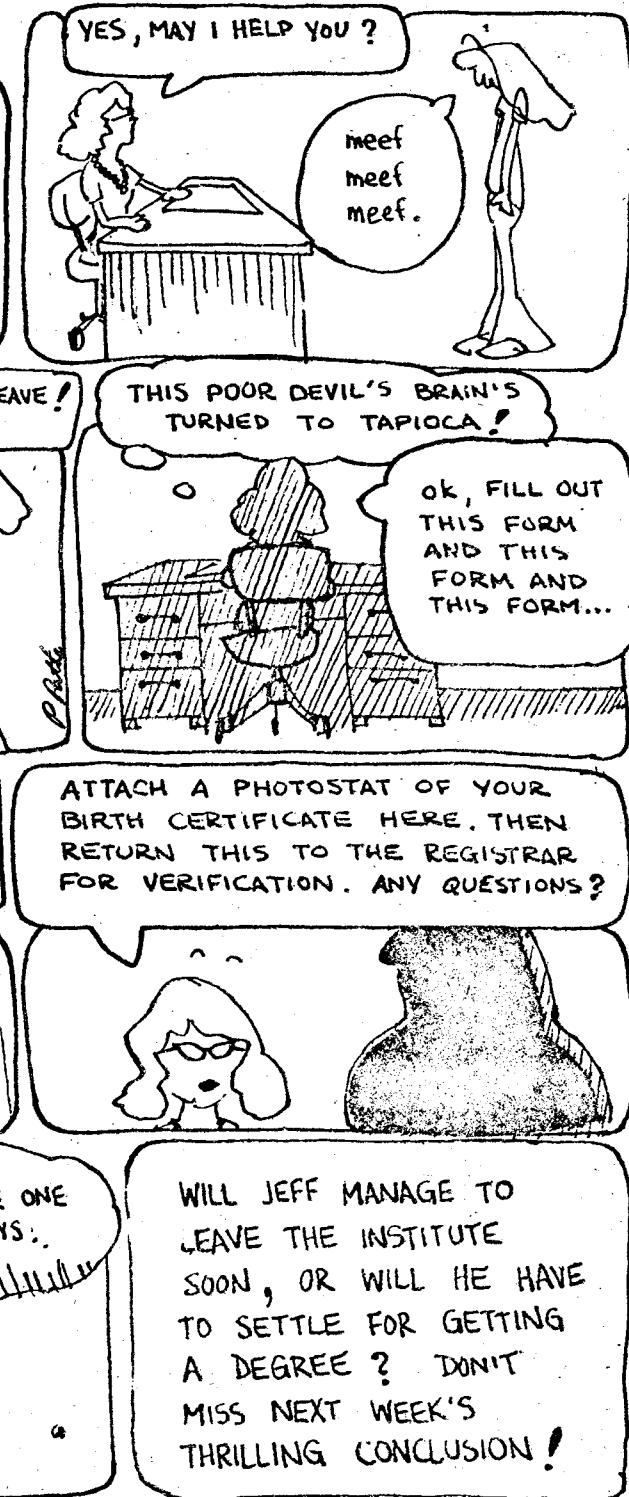
Seilstad's talk attempted to place the complex problems of earth in a cosmic perspective. In an imaginary journey away from Earth, Seilstad suggested that the problems which cannot be solved on the global level lose significance as the earth's awesome beauty becomes apparent. First local boundary disputes are hidden by a hundred mile perspective, and finally, by the moon's orbit, geopolitical boundaries disappear, and the earth seems fragile, delicate, and lonely.

As the center of the universe appears, the tremendous size of the universe, and consequently, the "averageness" of earth becomes apparent. Seilstad hinted at the origin of the universe by describing the evidence for the big-bang theory—the plot of energy density of Radiation vs. Frequency exactly fits the model for a perfectly radiating thermal body. Then Dickerson, oops, er, Seilstad explained the synthesis of the elements by nuclear fusion, and the subsequent development of planets, galaxies, and globules (the early stage of star formation). The possibility that life could have developed on other planets was reinforced by the existence of organic molecules in space dust. Seilstad referred to an experiment in which basic organic molecules were caused to form amino acids—the basis of life—by the addition of energy. Seilstad believes that all life came from nonlife, and in fact, "life is a continuum that is traceable to the beginning, to the Big Bang itself."

Seilstad was thus suggesting that the Earth is part of a greater group of planets containing life. Man's differences are quite important, however. Man can communicate across generations, and consequently, knowledge always expands. Knowledge is power, as man's activities point

Peebies

JEFF (NOT HIS REAL NAME), SHOCKED INTO A STARTLING REALIZATION, ATTEMPTS TO WITHDRAW FROM THE INSTITUTE



THE GYPSY RESTAURANT ARMENIAN AND AMERICAN CUISINE



Specializing in Shish-Ka-Bob (Lamb and Beef), Tabouli, and a mouth-watering assortment of exotic dishes.

Caltech Special
Beer • one dollar a pitcher
Tuesday-Friday 11.00am-4.30pm

Caltech ID required

- Announcing the best in ethnic entertainment.
- Exotic belly dancers during lunch hour, Tuesday through Friday.
- Live music, audience participation, and belly dancers every evening, Thursday through Sunday.
- The sensuous pleasures of the Middle East at their very best.

Call for reservations at (213) 798-7005

The Gypsy Restaurant
924 North Lake Avenue
Pasadena, California 91104
corner of Lake and Mountain

Tues. 11am-11pm
Wed. 11am-12mid
Thurs.
Fri. 11am-2am
Sat.
Sun. 11am-12mid

The News Didn't Fit

For The Future's Sake . . .

Be tested at Occidental College on Monday, November 20th, or Tuesday, November 21st, from 10:00 am to 2:00 pm, for the inherited genetic disorder known as Tay-Sachs Disease. These tests will be conducted in the Morrison Lounge of the Student Activities Building at no charge. It is a relatively simple blood test.

Why should you care? Tay Sachs disease is a genetic disorder causing the destruction of the central nervous system. It begins to affect children at the age of about six months, eventually blinding, crippling and killing the affected child. There is a 1 in 200 chance that you are a recessive carrier of this genetic defect, as much as 1 in 27 among the Jewish population. If you have children by another carrier, there is approximately 1 chance in 4 that you will have the chance to watch any given child decay and die in a particularly unpleasant manner. There is no known cure for the condition at present.

Please care.

For more information, call California Tay-Sachs Disease Prevention Program (213) 775-7333.

Your children thank you.

Author, Author!

Hillel Halkin, author of the recently published book, *Letters to an American Jewish Friend, A Zionist Polemic*, will speak next Wednesday night, November 16, at 8 pm in Winnett Lounge.

Halkin will discuss what he sees as the necessity for all Diaspora Jews to go to Israel. A recent emigrant to Israel (1970), Halkin feels that Israel is the only place where a Jewish life is viable. He feels that Zionism is central to Judaism, and that any Jew who does not choose to live in Israel is forced to remain on the periphery of Judaism.

Letters to an American Jewish Friend is a series of letters to an imaginary Jew, a friend of Halkin's, who, unlike Halkin, is satisfied with his life as an American Jew. The letters, all from Halkin to the friend, discuss the entire nature of Judaism, but centering on the Diaspora versus Israel.

Hillel Halkin was born in New York City in 1939. In 1970, he emigrated to Zichron Ya'akov, where he now works as a translator. His talk is sponsored by the Caltech Hillel.

BLARK Lives!!!

Bikers Unite!

The Caltech Cycling Club will have an organizational meeting at 7:30, Wednesday, Nov. 15 in 127 Baxter. Dues of \$5 per year and a \$2 key deposit will allow use of the bicycle repair shop, which is equipped with all necessary tools for repair and maintenance.

Discuss! ?!!

The Women Students' Discussion Group is meeting Wednesdays at noon upstairs in Winnett in the Y Lounge. All graduate and undergraduate women are invited to attend. Bring your lunch.

Further info may be obtained by calling Bev at ext 2394.

Have Sword, Will Travel . . .

Yes, friends, you too can join that creative group of people who allow their imaginations to carry back to those thrilling days of neverwhen, when men were men and giants *really* walked the earth. I refer, of course, to the Caltech Gamers, whose invitation to all of you to drop by and join in the fantasy and science fiction games on Friday and Sunday nights in Clubroom 1 of Winnett Center remains open. Dungeons and Dragons predominates, but other games occur based on demand, and most of them require little or no experience. Drop by at 7:30 pm this or any weekend.

Watson from Page 11

out. In the last 2 millionths of one percent of earth's history, man has acquired an awesome status: nuclear weapon reserves are sufficient to destroy all the life on earth. Escalating population threatens to overwhelm earth's resources. Man threatens to pollute, scar, and bury the earth with pollution, mismanagement and trash. The important point is that the pace of these events is extraordinary compared with the cosmic scale. Seilstad concluded by posing a formidable question—will earth be a fertile seed which will grow and flourish in the biosphere of the universe—developing a cooperative system of growth with other life, or will we destroy ourselves before we have that chance.

The next Watson Lecture is December 6, and will be "Cancer, Disease, and Immunity" by Leroy E. Hood.

"Mud, Mud, Glorious Mud!"

The Mudeo will be held on Sunday, November 19 at 1 pm. The sophs and frosh will battle each other in a pit on Del Mar Avenue near campus. Attire informal (no cleats, though optional).

"Nothing Quite Like It For Cooling The Blood"

Warning!

Do Not Operate 2-Way Radios

There will be a Beer Blast this Friday on the Quad, starting at 3:00pm. Go to the football game and come for beer, munchies and pop after the game.

Getting Blasted Zone!

CLASSIFIED

Professional typing by Executive Secretary. Thesis, reports, term papers, MSS. Spelling and corrected Fast, dependable. 441-1410.

Postage paid at Pasadena, California. *The California Tech* is published weekly except during examination and vacation periods by the Associated Students of the California Institute of Technology, Inc., Winnett Student Center, Caltech 107-51, Pasadena California 91125.

Ask a question about money. We'll give you a full report.

If you have a financial question you'd like answered, Bank of America is the place to come.

In fact, we can probably give you a full report on the subject.

That's because our Consumer Information Reports cover a wide variety of banking subjects. Including, "A Guide to Checks and Checking," "How to Establish Credit," "Ways to Finance an Education," "Rights and Responsibilities: Age 18," and more. They're free at our branches.

Of course, we offer a wide variety of other banking services you might find useful. Like College Plan® Checking. And if you qualify, Student BankAmericard® Visa® and Instant Cash overdraft protection.

You see, we figure the more you know about banking, the more likely you are to bank with the bank that can do you the most good.

Quite a few Californians think that's us. And we're hoping you'll come to the same conclusion.

Depend on us. More California college students do.

BANK OF AMERICA 

