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There will be a fine
set of Tech eds second

THE CALIFORNIA TECH

term, your check is in
your mouth, and we
won't come in the mail.

Volume XC, Number 10

Pasadena, California

December 2, 1988



Photo by Paul Gibson

Senior Andrew Hsu (center), with his friends Patsy (right) and Lisa (left), serves Thanksgiving dinner to the less fortunate.

Techers Help The Underprivileged

by Andrew Hsu

Yes there are other people living in the Pasadena area besides the Caltech community, the Pasadena police, and the employees of the Pantry.

Throughout the month of November, various Caltech students discovered this amazing fact and the fact that one of the most rewarding ways to put off doing homework is by helping those in the community that are less fortunate than ourselves.

First, on Nov. 19, while many of us were subjecting ourselves to that test of physical endurance known as Kelrof, a group of volunteers, led by Y Excomm secretary Golda Bernstein, spent a day at the Five Acres center for underprivileged boys. In total, 19 people from Caltech spent the day doing various yardwork and housework that the center needed badly.

Then on Thanksgiving day, a group of about 20 volunteers spent their afternoon helping serve meals to the underprivileged at Pasadena's Central Park. Organized by the Caltech Y, the serving of Thanksgiving meals gave the volunteers an opportunity to help the homeless and to get acquainted with the large network of volunteers that regularly donate their services to the Pasadena community. Some Caltech volunteers not only helped serve meals but also took part in preparing some of the food that was actually served. One volunteer in particular, Matthew Avalos, pulled an all-nighter the previous night to make 10 pumpkin pies for the occasion. Asked why someone would want to spend their Thanksgiving afternoon serving meals, one volunteer replied, "I'm tired of reading all the ads in the newspaper about sending money to charity organizations. Throwing money blindly will not solve anything, but donating time might."

Although most of December has been converted into a long

winter break, the Caltech Y is sponsoring some final activities (no pun intended) just before most of us leave.

As usual, there will be a noon concert this afternoon on the Winnett quad. Performing today will be the Caltech Wind Ensemble under the direction of Bill Bing. The wind ensemble has spent all term rehearsing for this performance so be sure and attend to hear the fruits of their labor. This is the last noon concert of the term so today will be the last day to find out what the noon concerts are all about. The concerts will resume next term. Be on the lookout for a schedule of performances.

On the weekend before finals week, the Y once again presents Decompression. From 8 to midnight on both Saturday and Sunday in the Winnett lounge, the Y will provide stuff to give people a break from all those exams and papers. As usual, food and videotaped movies will be there along with board games and lots of your friends. As an added bonus, the comedy im-

prov group—"Blame it on Our Mothers"—will give a special performance on Sunday night at 9:30. The six person improv team will be delivering over an hour's worth of laughter all in the convenience of the Caltech campus. Be sure to get to the lounge early to get a good seat!

Finally, for those students that are still around during the winter break, the Y will be sponsoring its annual stranded students party on Friday, December 16 in the Winnett lounge. Hosted by two Caltech alums (and ex-Excomm members at that), the party will give everyone that's still on a campus something to do during Christmas break. Everyone that lives in the Southern California area is also invited to attend this party if the holiday season gets a bit slow at home.

That's all for this year from the Caltech Y. See you all next year and be on the lookout for more Y activities that will stimulate you emotionally as well as academically. And as always, ditch day is tomorrow, frosh.

Conditional/Underload Changes

The Faculty Board has approved the following changes to Conditional grades and underloads effective this term:

E Grades—

1. Beginning this term (previous E's don't count), you are allowed to receive only 6 E's during your undergraduate career—plus any other E's you receive in the same term as your 6th.

2. After your sixth E, instructors will be required to give you the grade you have earned or, if authorized by the Deans, a grade of "I" (Incomplete).

3. Grades of "I" can be authorized by the Deans in cases of extreme emergency. They are not

counted toward your quota of six E's.

4. If an instructor gives you an E you don't want, then it needn't count in your quota, provided that you inform the Registrar promptly (by the beginning of the next term). In that case, the Registrar will tell the instructor to convert the E to the grade you had earned before the end of the term.

5. UASH has the power to authorize exceptions to this policy, but petitions requesting additional E's are likely to be approved only in rare and exceptional cases.

6. The Academic eligibility guidelines regarding E' and F's remain the same. Freshmen are in-

Fraternity Hazing Makes Comeback

by John Hanchette

GANNETT NEWS SERVICE

Viewed individually, "hell nights" and hazing incidents at college fraternities tend to seem like harmless pranks, but pull them together and they constitute a national epidemic of moronic violence and needless death.

Eileen Stevens, who formed the Committee to Halt Useless College Killings—C.H.U.C.K.—after her son, Chuck Stenzel, died in an Alfred University fraternity initiation in 1978, has documented 51 hazing deaths in the last decade.

Stenzel was locked in the trunk of a car in 9-degree weather and told to consume a pint of bourbon, a six-pack of beer and a fifth of wine. He died of exposure and alcohol poisoning.

Stevens, of Sayville, N.Y., has lectured at 350 colleges in nine years. When she started, five states had anti-hazing laws. Now 29 do, with three more about to legislate them.

ty is suspended for three years after senior Steven R. Jenny, 23, is se-

verely burned on the abdomen, buttocks and groin in the frat parking lot when he is stripped and four gallons of a mixture of hot urine, peanut butter and feces are poured upon him. The ritual is performed at the frat when a member gives a lavalier, or necklace, to a woman, as Jenny had.

—At the State University of New York at Albany, newly accepted Tau Kappa Epsilon pledges wander into a campus irrigation pond as part of the initiation celebration. Bryan Higgins, 20, does not come out. He is electrocuted in the water due to a shorted wire in the underground pump house.

—A former student at North Carolina A&T draws two to five years in prison for beating a fraternity pledge's face with a two-by-four.

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Caltech Crime Rate Below the National Mean

by Brian Lemoff

While crime rates have been increasing dramatically over the past few years at most of the nation's colleges, students at Caltech are as safe now as they were last year and probably safer than they were three years ago. Violent crimes are all but unheard of at Caltech, and thefts remain far below the national average.

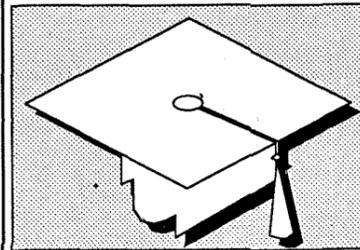
According to the Gannett News Service, on college campuses nationwide, reported rapes were up 140 percent, assaults were up 170 percent, and robberies were up 189 percent. The GNS also reported that eleven percent of all college students had been confronted by an assailant on campus. The GNS found that just over one in four college women had been forced to have sex. According to Harold Ginder, Caltech Security Manager, there have been no rapes or robberies reported at Caltech in the past five years. It should be emphasized that a "robbery" is defined as a theft in which the victim is assaulted.

Two assaults occurred over the summer, both involving a bicyclist wielding a heavy blunt instrument. There was also an incident which occurred at Interhouse two years ago, in which a member of Page House discovered the following morning that he had been "stabbed" in the back of the head. A further incident which occurred two years

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NEW EDITORS NEEDED

The editors of the California Tech are vacating their position effective this issue. Nominations for replacements will open Monday, January 2, 1989.



Crime on campus

Part 3 of 4

"Parents and students not involved in this stuff think hazing was just a bunch of prankish stunts back in the '50s," she said. "They have no idea it's still going on."

Going on it is, with a vengeance. During the last two school years, these incidents have occurred:

—At Valparaiso University in Indiana, Sigma Phi Epsilon fraterni-

eligible to register for the next terms if they accumulate 27 or more units of E and F throughout the year. Non-freshmen become ineligible to register for the next term if they receive 27 or more units of E and F in a term or 45 units of E and F in a year.

Underloads (less than 36 units)—
1. Beginning this term (previous underloads don't count), a first-time underload may be approved by a Dean if you are going to take at least 27 units.

2. After that only UASH can approve underloads for non-seniors. Petitions to UASH are likely to be approved only in exceptional cases.

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Caltech to Share Palomar

Caltech and Cornell University have signed an agreement for joint operation of the 200-inch Hale Telescope at Palomar Observatory. Under the agreement, Cornell astronomers will receive 25 percent of the observing time on the telescope in return for providing one-fourth of the operating costs and constructing new detecting instruments for the telescope. Cornell's contribution is expected to be about \$500,000 per year.

Under the Caltech-Cornell agreement, Cornell astronomers will begin observing on the 200-inch telescope in January 1990. Cornell astronomers will receive their observing time spread over the entire year, including both light and dark phases of the moon. During the light phases, infrared observations that are unspoiled by moonlight are typically carried out, while deep-space optical studies of galaxies and quasars typically occur during the dark phase. The Cornell observing time will be allocated by a committee of Cornell astronomers.

"This agreement assures that the Hale Telescope, among the greatest scientific instruments ever built, will remain at the forefront of science," said Caltech president Thomas E. Everhart. "It will help Caltech maintain Palomar Observatory as one of the premier observatories in the world."

Cornell president Frank H.T. Rhodes noted that "the opportunity to make use of this extraordinary telescope is extremely valuable to us. Like their Caltech counterparts, astronomers at Cornell have more questions about the cosmos than could be answered by a hundred large telescopes. We are grateful that Caltech has offered Cornell astronomers access to the Hale Telescope. We're also confident that the ingenuity of our instrument builders will create powerful and useful new devices for the giant of Palomar."

"We are extremely pleased with the agreement, and we look forward to working with the Cornell astronomers," said Gerry Neugebauer, Caltech's Howard Hughes Professor and professor of physics; Chairman of the Division of Physics, Mathematics and Astronomy; and director of Palomar Observatory. "Currently, the most signifi-

cant restriction on the 200-inch telescope is the array of instruments available to astronomers. The agreement with Cornell will enable us to have numerous new detectors, especially in the infrared range, that will provide large benefits to all observers."

The chairman of Cornell's Astronomy Department, Yervant Terzian, said that "a marvelous new window into the universe has just opened for Cornell astronomers. Thanks to the extraordinary care that Caltech has taken in maintaining the Hale Telescope, and the generous cooperation of the surrounding community in reducing light pollution, it is still today the best operational research telescope in the world. The observations at Palomar, combined with observations made at Cornell's Arecibo Observatory at radio wavelengths, will surely increase our understanding of the cosmos."

Besides owning and operating the 200-inch telescope at Palomar, Caltech, along with the University of California, is constructing the world's largest optical telescope, the 10-meter W. M. Keck Telescope on Mauna Kea, Hawaii. When completed in 1990, the \$90 million telescope will be operated by the California Association for Research in Astronomy, a consortium of Caltech and the University of California. The new telescope is financed mainly by a \$70 million grant from the W. M. Keck Foundation.

The instruments that Cornell will provide for the Hale Telescope will consist initially of highly sensitive infrared detectors. Cornell astronomers, including Professor James Houck and Associate Professor Steven Beckwith, have led in developing infrared instruments for ground- and space-based telescopes.

Houck participated extensively in the Infrared Astronomical Satellite project in 1983 that revealed about 250,000 previously unknown infrared sources in the sky, including stars, galaxies and comets. He is also principal investigator for the infrared spectrograph to be flown aboard the Space Infrared Telescope Facility (SIRTF), to be launched in the mid-1990s.

Beckwith also is a member of the SIRTF team, and with his col-

leagues has developed new instruments and conducted infrared observations at numerous observatories around the world.

The initial instrument provided to Palomar will consist of a mid-infrared spectrograph, which will use technology developed for SIRTF. The detectors will consist of arrays of infrared-sensitive, arsenic-doped silicon crystals, cooled to cryogenic temperatures with liquid helium to eliminate thermal noise.

Infrared light, or heat radiation, has become an important means of viewing the cosmos. By studying infrared radiation from space, astronomers can detect stars being born and dying, forming galaxies, comets, interstellar dust clouds, and the atmospheres of planets in our solar system. "Mid-infrared" radiation, with wavelengths of about 10 micrometers, occupies the middle of the infrared spectrum of light, while "near-infrared" radiation is that which is just beyond the red end of the spectrum of visible light.

The 500-ton Hale Telescope, which was completed in 1949, is considered one of the scientific marvels of the world. It has led to astronomical discoveries, from quasars to the structure of distant galaxies, that have changed humanity's view of the heavens. Its 200-inch diameter mirror makes it the most powerful telescope in the United States. Only one telescope in the world is larger—a 6-meter (236-inch) Soviet telescope.

Besides the 200-inch Hale Telescope, there are four other telescopes at Palomar Observatory, including the 60-inch Meyer Telescope and the 48-inch Oschin Telescope. Other Caltech astronomical facilities include Big Bear Solar Observatory and Owens Valley Radio Observatory.

Cornell also operates for the National Science Foundation the Arecibo Radio Observatory in Puerto Rico, the world's largest filled-aperture radio-radar telescope.

letters

To the Editors:

In response to Heidi Anderson's complaints about TACIT (Nov. 18, 1988), it is only fair to point out that Caltech has always permitted its extended community to participate, on and off stage, in its theatrical productions. During the last four years, current policy has stated that the majority of that participation should be students, giving people like Miss Anderson the edge in casting over any other Caltech group of auditioners.

Since she only mentions JPL, faculty and students as the "Caltech community" which alone ought to be eligible to play leads in TACIT productions, perhaps she wishes to exclude alumni, staff, graduate students, spouses, children, and friends (some of whom have indeed attended other schools in the area), but who have traditionally all been eligible to be considered for any role they tried out for.

It seems clear from her letter that a good deal of Miss Anderson's disgruntlement stems from her loss of leading roles (in the two musicals she mentions) to someone else—people whose connection to Caltech is acceptable under the present rules. What she neglects to mention is that she personally has hardly suffered from an "unfair" policy. She played the leads in *Romeo and Juliet* and *How to Succeed . . .* and only sees fit to complain when she falls victim to the ordinary circumstances of auditions anywhere: you don't always get the role you want.

Trying to further restrict TACIT policy in order to "guarantee" principal roles to persons with the sort of motives Miss Anderson's letter seems to express, would, in my opinion, be a mistake. Why shouldn't Caltech try to put on some ambitious productions if it chooses? And why shouldn't TACIT cast an Al Hibbs (retired from JPL), a Max Bryson (friend in South Pasadena), or a Stephen Walton (former research assistant in Astronomy) in leading roles, as well as the ladies Miss Anderson resents, if they are the best Caltech has to offer?

Caltech prides itself on striving for excellence in all areas. The students who are involved in TACIT have done pretty well to date; the current policy favors them, and they have yielded few leading roles to folk from off-campus—their principal competition has been right here. It is unreasonable to restrict a rewarding theatrical organization here to a choice of casting only certain members of our community in leading parts. Such limitations will force it to do only the kind of mediocre productions which will eventually alienate both actor and audience. TACIT does not pretend to be a professional organization; it does not seek out professionals to play leads for it, although it has benefited both technically and in casting from the occasional participant with more experience or training than the average. Let's continue to mix experience and enthusiasm by using all of Caltech's resources to both do a good job and have a good time!

—Lynne McGrath
(staff member and sometime actress for TACIT)

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ENTERTAINMENT

Who is The Prisoner?

by Eric C. Johnson

"I will not make any deals with you. I've resigned. I will not be pushed, filed, stamped, indexed, briefed, debriefed, or numbered! My life is my own."

—Number 6

A valuable British secret agent, for reasons of his own, suddenly resigns from his government position. He returns home, followed by a mysterious black hearse. As he is preparing his things to go on holiday, the men in the hearse inject a knockout gas into his house and he falls unconscious.

When he wakes up he finds himself in a mysterious place known only by the deceptively simple name of "the Village". There he is informed by a man called "Number 2" that he has been brought to the Village since many people (conveniently unidentified) are curious as to the motivations behind his resignation. Number 2 also tells him that names are not used in the Village and that he will be referred to, "for official purposes," as Number 6.

The Village appears to be like something out of a storybook fan-

tasy. It is very colorful and is set on an island. It loudly proclaims that it is a democracy with free elections, and the inhabitants appear to be enjoying themselves.

There are many slogans in the Village: "Questions are a burden to others, answers a prison for one's self"; "A still tongue makes a happy life"; "Humor is the essence of a democratic society." On the surface the Village seems to be a utopia.

However, Number 6 realizes that it is all very deceptive. The inhabitants have very little will of their own and act as the Village wants them to. Escape from the Village is essentially impossible. Constant monitoring of the "citizens" is maintained, and for those who fall out of line or try to escape, there is a giant white balloon named Rover which chases them down and suffocates them.

It is to this world that Number 6, fiercely independent and undeniably individual, is transported. Number 6 is determined to escape and find out who is running the Village and why. But the Village proves to be full of obstacles and challenges for its prisoner, and is

determined to make him reveal why he resigned.

The preceding is a basic description of *The Prisoner*, a television series that has been described in as many different ways as there are people who have seen it. Created by its star, Patrick McGoohan, and its script editor, George Markstein, *The Prisoner* is seventeen episodes in length and was first broadcast in England in 1967 and in the United States during the summer of 1968.

On the surface, *The Prisoner* is an action/adventure series which relates the plight of Number 6 to escape the Village and to find out who, or what, is "Number 1". Also, throughout the series Number 2, personified by a different person episode by episode, constantly manipulates events in order to force Number 6 to reveal his reasons for resignation. Number 6, with an uncrushable spirit, individually fights the system and retains this priceless information within his own head.

However, *The Prisoner* is no mere entertainment series, although in that respect it rates among the finest television ever

continued on page 4

New Book Links CIA to Jonestown

by Mark H. Foxwell

The Guyana Murders
by Alan W. McCoy
Highland House, San Francisco

In this small book (60 pages), private investigator/journalist Alan W. McCoy takes issue with the widely accepted explanations of the events in Jonestown, Guyana, in late November of 1978.

On 18 November, Congressman Leo J. Ryan had been conducting a fact-finding expedition to Jonestown. There they found disturbing behavior and hostility, escalating to an attack on one of Ryan's nine-person entourage. The expedition fled to nearby Port Kaituma, where an assassination squad struck, killing Ryan and wounding the others.

The generally accepted story is that the Jonestown residents, impelled by the spellbinding charisma of their leader, the Reverend Jim Jones, drank cyanide-laced Kool-Aid that night when Jones despaired of continuing his cult under the harsh glare of outside scrutiny. The central disputed claim is the widely accepted conclusion that the colony committed suicide. As McCoy's title indicates, his evidence suggests that there are other explanations for the deaths of the Jonestown residents.

McCoy first points out that the response in Washington to these events was bizarre. Washington's reaction to the news was unusually swift, massive, and immediately involved the highest levels of the military command. The Secretary of Defense, Joint Chiefs of Staff, and the White House were all involved directly in the command of the subsequent responses, which

were of a scope and pattern typical of covert operations and not of typical rescue/disaster operations.

McCoy discusses several discrepancies between the reports of early witnesses and the final verdict reached and reports astonishingly sloppy procedures (given the priority this disaster had), which, if we reject official claims in favor of the alternative reports, lead one to suspect that many of the final 910 Jonestown victims did not die on 19 November but some time after the arrival of the American team, often of gunshot wounds, not cyanide.

McCoy then deals with discrepancies between the widely accepted biography of Jim Jones and certain items of evidence regarding Jones's travels in South America and Cuba and regarding his passports, and how these relate to the suspicion that Jones was connected to the CIA. Finally, McCoy suggests several connections between the Jonestown deaths and known CIA activities.

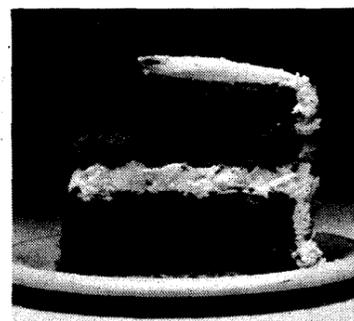
Demerol, morphine, Thorazine, and other mind-altering substances were found in ten-thousand dose quantities in Jonestown, a community of less than a thousand people. Beyond that fact, the evidence is quite circumstantial, but there is ample documentation of numerous CIA mind control experiments, collectively referred to as MK-ULTRA, which involved subjecting numerous Americans to hallucinogens and other mind-altering techniques, often without their knowledge or consent.

McCoy's case is, at this point, not compelling. He never discuss-

continued on page 4

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ENTERTAINMENT

Strange Piracy

by Nick Smith
On *Stranger Tides*
by Tim Powers
Ace paperback, \$3.95

"...And unmoor'd souls may drift on stranger tides/Than those men know of, and be overthrown/by winds that would not even stir a hair..."

—William Ashbless

Tim Powers has a marvelous gift for description combined with a really warped mind. This book can best be described as "Errol Flynn Meets the Night of the Living Dead."

The strangest part of it is, this is a *really* good fantasy novel.

Powers has taken some of the more interesting historical notes about pirates of the Caribbean, combined it with folklore of the same area, and come up with a book in which Blackbeard and Ponce de Leon both knew what they were doing, the meaning of the word "buccaneer" is explained, and "honest" pirates have great rousing sword-fights against the zombie-followers of the *really* bad badguys.

My knowledge of *vodun* (mispronounced "voodoo" in a lot of old horror movies) is limited, but what Powers uses has an authentic *feel* to it, and his explanation of some strange bits of pirate lore (why Blackbeard wore lit matches in his hair and beard when going into battle, for instance) are great! The descriptive passages are very visual (a dead man's footfalls are described as sounding like "dead toads being rolled down a shingled roof") and *very* vivid.

Don't misunderstand! This is *NOT* a horror novel. It's a swash-buckling pirate novel, with fanta-

sy and horror well-woven into the basic fabric of the pirate story. The story is a lot of fun and well worth reading if you are interested in a historical fantasy novel.

In the unlikely event that you have free time this weekend, two authors whose works were reviewed in these very pages last year will be here in Pasadena. On Saturday, Barbara Hambly will be at Planet 10 (79 N. Raymond in old town Pasadena). Her techno-fantasy duo of *The Silent Tower* and *The Silicon Mage*, as well as her Star Trek novel *Ishmael* were great. On Sunday afternoon, Elizabeth Scarborough will be at Planet 10. Her works include *The Gold Camp Vampire*, *The Drastic Dragon of Draco*, *Texas*, and her recent serious work, *Healer's War*, a Vietnam War story.

More Prisoner

from page 3

produced. It is also very allegorical and thought-provoking, and it is these aspects for which *The Prisoner* is best known.

Patrick McGoohan created *The Prisoner* because he felt that the freedom in the world was decreasing each day and was already, in fact, a myth. He has stated that he does not feel that his series is science fiction, but rather a "contemporary subject." For McGoohan, George Orwell's vision of society in the book *1984* was not a fantasy of the future but a reality of today.

McGoohan wanted not only to

from page 3

es the fate of those few people who were Jonestown residents who survived the massacre. His style is not perfect, and there are a few typos which confuse the meaning of the text. Some of his most suggestive evidence is anonymous, disputed, or circumstantial. He is on thinnest ice when trying to show a connection between Jones himself and the CIA. On the other hand, his sources are generally conventional, and are responsibly used.

The disputed evidence is precisely that which would be falsified in a cover-up. His alternative theory of the Jonestown massacre, that Jim Jones's People's Temple was in fact a large CIA mind-control ex-

periment, is not really unreasonable to anyone who has studied CIA activities. The major problem with dealing with the CIA is that its actions are by charter covert and deniable, and therefore irresponsible but difficult to prove.

Much of the evidence needed to prove anything about these charges is routinely classified, and the powers of classification are entirely in the hands of very agencies that stand accused. Thus, McCoy is in no position to issue an indictment. Rather, this book is more like the evidence shown to a judge before issuing a search warrant—we are shown cause to suspect a cover-up and illegal activities, and are asked

to urge deeper investigation.

to urge deeper investigation.

Perhaps we do not care so much about 900 deaths a decade ago, but the possibility that these deaths were not just meaningless tragedies but perhaps prototypes of techniques for dealing with undesirables in future nationwide crises should alarm us. Furthermore, if McCoy is wrong and the People's Temple was nothing more than a self destructive cult that destroyed itself, it should be relatively harmless to demand full disclosure of the facts of a case that is so definitively closed. If the facts of the Jonestown case are somehow matters of "national security", we should wonder why.

entertain the viewer, but to challenge him to consider what "freedom" and "the individual" really meant. Thus, he created a series which, through extensive use of symbolism and surrealism, posed numerous, hard-hitting questions about the society of which the viewer is a part. What is freedom? Are we really free? Is society a good or an evil for the individual?

Following through with this philosophical purpose, *The Prisoner* does not make any efforts to explain the meaning of what it is saying, but leaves this task for the viewer. In the final episode of the series when, per usual television, "all is revealed," the viewer realizes that almost nothing has been answered and in fact more difficult questions have been raised.

As the credits roll for the last time, the controversy is not

resolved and the analysis must continue. As one can expect, many people dislike the series because, in their words, "it's too confusing." Indeed, not only are questions left unanswered, but often the actual plot becomes very challenging. Every thing and every action in *The Prisoner* is clearly symbolic of something, but of what?

Even 20 years after the series was first aired, there remain today great debates on the "meaning" of the symbols and events. All in all, *The Prisoner* has proven to be the most intellectual, intelligent and thought-provoking television series ever created in addition to being an outstanding entertainment series.

No article can do justice to a television series like *The Prisoner*. It is an "event" that must be experienced by the individual in ord-

er to be fully appreciated. Everyone is invited to attend the next meeting of S.P.E.C.T.R.E., the Caltech Science Fiction Club, on Wednesday, 23 Nov. at 7:30 pm in Clubroom B (Room 15, SAC).

The Caltech Glee Clubs

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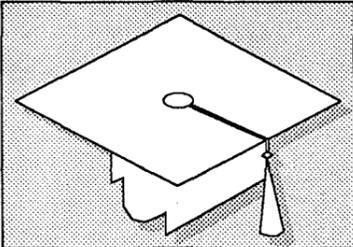
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Crime on campus

Part 3 of 4

from page 1

—At the University of Pennsylvania, Zeta Beta Tau fraternity is suspended for sponsoring a sexually explicit show during which a pledge danced with two naked black strippers while the frat members shouted racial insults.

—At the University of Lowell in Massachusetts, six frat brothers are arrested and charged with fastening a sleeping bag over a pledge's head, locking him in an attic and stoking up the furnace full blast until his temperature reached 109 degrees and he lapsed into a coma.

—At the University of Texas, a special 26-member commission concludes hazing is a serious campus problem surrounded "by a conspiracy of silence" after finding some fraternities and social clubs were using electric cattle prods on new members and that several pledges had been pummeled so hard with two-handed wooden paddles they were treated at hospitals for bleeding testicles. Jack Ratliff, a member of the probe group and a law professor at the university, said initiates were advised by the frats to seek treatment outside of Austin because local hospitals cooperate with UT officials.

—In September 1988, after extensive anti-hazing reforms, the University of Texas still suffers two fraternity deaths when one Delta Tau Delta pledge falls to his death off a cliff to avoid a swimming pool dunking, and another Texas student shoots himself in the head after failing to be accepted in the frat of his choice.

These are only some of the incidents. The recent history of

fraternity hazing is a scary litany of young men being branded, beaten, burned, buried alive and boozed up so badly they fall from cliffs, off buildings and down staircases. Some have been zapped with cattle prods, others pelted with eggs for so long that they got infections and needed skin grafts.

In recent school years, several colleges—Amherst, Colby, Williams, Franklin and Marshall, the University of Lowell, American International—have banned fraternities and sororities outright. Other schools—Bowdoin, Gettysburg College, Dickinson College—have started proceedings headed that way unless trustees intervene.

And colleges all over are tightening up on fraternity behavior.

The University of Virginia has forced its Greek organizations to sign "save harmless" contracts designed to render the school legally blameless if trouble occurs. Indiana University has taken strict measures to ban underage drinking. At the University of Maine's Orono campus, fraternity and sorority pledges must participate in alcohol awareness education. Drew University in New Jersey has banned beer kegs at parties and restricts the number of students who may gather in a room at any one party.

At Rutgers, which last semester suffered some of the worst publicity in the school's history when a freshman died of forced overdrinking at a Lambda Chi Alpha initiation, members must maintain a 2.0 grade-point average, bars must be removed from fraternities and sororities and freshmen can no longer pledge; one must be an upperclassman.

"Not allowing kids to pledge until they're sophomores was very smart of Rutgers," Stevens said. "Young men and women away from home the first time, trying to find their niche—that's a very poor time for them to be rushed and courted."

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More Caltech Crime

from page 1

ago involved a U.S.C. student who was apparently assaulted in the Chester parking lot, although the incident was not reported until two weeks later. The above incidents, according to Ginder, are the only reported assaults at Caltech in the last five years. Says Ginder, "Things are pretty good when you can count the number of assaults in the last few years on one hand."

According to Caltech Security records, which covered the period from December 1986 through November 1988, the total number of thefts in which the victims were undergraduate or graduate students was the same this past year as during the previous year.

This year, there were 15 incidents in which items were stolen from students' rooms. Last year, there were 26 such incidents. In none of the incidents was there any evidence of forced entry, indicating that the rooms had been left unlocked. According to Ginder, this is a dramatic decrease from the number of illegal entries four years ago. He credits the drop to the installation of combination locks on the doors to student rooms and to the stationing of a security officer in the undergraduate houses between the hours of 8 pm and 4 am.

Bicycle thefts are by far the most serious crime problem at Caltech. This year, 35 bicycles were stolen from students, up from 22 bike thefts the previous year. Although some of the bicycles were locked, many were not. Thefts from cars, particularly car

stereos, is also a problem. Seventeen such incidents were reported this year, up from 16 reported incidents last year.

Also, this past year, one motorcycle and three automobiles, belonging to students and parked on campus, were stolen. Last year, one motor scooter and six automobiles were stolen. As simple addition will reveal, there were 71 thefts both this year and last year.

Another national statistic quoted by the Gannett News Service was that 16 percent of all college women use escort services when walking at night on campus. Caltech Security does offer such a service, but according to Ginder, there is only one female student who regularly takes advantage of it. All of the statistics quoted by Caltech Security indicate that while Caltech is not immune to crime, it is certainly a much safer campus than the typical college campus described by the Gannett News Service.

More Gifts

from page 1

3. Seniors are routinely allowed to underload, provided that they are taking enough courses to carry out a plan to graduate in June without overloading.

4. Beware of the effects of underloading on your financial aid and eligibility for varsity athletics!

Stop by the Deans' Office or the Registrar's Office if you have any questions on these new policies.



The Caltech Men's and Women's Glee Clubs pose for a combined portrait on parents' day.

Glee Club Holiday Concert

by Brian Lemoff

Tomorrow, the Caltech Men's and Women's Glee Clubs and the Caltech Chamber Singers will be presenting their annual holiday concert, in two performances. The afternoon performance will be at 3 pm and the evening performance will be at 8 pm. The concert will include traditional Chanukah and Christmas music as well as more modern works relevant to the holiday season. Both shows will be performed in Dabney Hall, and tickets (\$4 for students, \$6 for others) will be available at the door.

The combined Glee Clubs, under the direction of Monica Hubbard, will be performing *Orietur Stella (Star of Jacob)* by Jakob Handl, *O Magnum Mysterium*, by Ludovico Tommaso Da Vittoria, and *Hodie Christus natus est* by G.

Pierluigi da Palestrina, as well as a selection of Christmas carols.

The Men's Glee Club, under the direction of Dr. Donald Caldwell, will be performing *O Magnum Mysterium* by Jakob Handl, *Jul, jul, stralande jul*, by Gustaf Nordqvist, *Ave Maria* by Franz Biebl, and *Chanukah Chag Urim* by Shur. They will also be performing several spirituals and carols, including *Mary Had a Baby* by Wendell Whalum, with Donnie Cotter performing the solo part.

The Women's Glee Club, also under Hubbard's direction, will perform *A Ceremony of Carols* by Benjamin Britton. Soloists include Cathy Hayes, Rachel Shinn-Mendoza, Marcia Warren, Amanda Heaton, Celina Mikolajczak, and the incomparable Eun Kyung Lee.

A small women's ensemble will perform three traditional Chanukah pieces: *Brachot*, *Hanerot Halelu*, and *S'vivan*.

The Chamber Singers, under Caldwell's direction will perform *Gloucestershire Wassail* by R. Vaughan Williams, *Riu, Riu Chiu, Yemei Hachanukah*, *A Lute Lullaby* by John Dowland, *Holly Carol* by Fissinger, and *Shepherds in the Field Abiding* by David Willcocks.

The Caltech Men's and Women's Glee Clubs are world class choral groups which have performed across the country. The Holiday Concert is one of only two concerts this year, at Caltech, in which the combined Glee Clubs will be appearing.

Students' Strippers Censored

by Tom Murphy

GANNETT NEWS SERVICE
PORT HURON, Mich.—The editor of the Erie Square Gazette at St. Clair County Community College plans to take her fight from the college boardroom to the courtroom.

Elizabeth Lueth, student editor of the newspaper, said she was considering a lawsuit against the college over the ban on advertisement for the Sarnia, Ontario, strip joint Cheri Champaignes.

Lueth has not decided on a specific charge beyond accusing college officials of violating the paper's First Amendment rights to run the ad.

"I've been forced to play by their rules, and I don't believe their rules are fair anyway," Lueth said.

"I want this case to go into court where there is fair play. I hope the court can decide this matter once and for all."

She said she planned to meet with an American Civil Liberties Union lawyer later this week.

College officials are standing

firm on the ban, saying that they are responsible for the paper's advertising content and that the ad is inappropriate for a student newspaper.

The college finances the paper, which is used for recruiting in area high school classes, said Thomas G. Sickelsteel, the college's informational services director.

The ads will have to be toned down considerably to appear in the paper, Sickelsteel said.

"Our policy is not to run ads for nude bars," he said. "That's our stand."

The ad refers to 16 totally nude girls, stage and shower shows, and Pandora the Predator in a "wild 'n' savage show," according to a college press release issued Monday.

College officials have no plans to discipline Lueth, Sickelsteel said.

The bi-monthly newspaper was supposed to appear Tuesday but did not because of computer and technical problems, Lueth said.

The paper was to appear Wed-

nesday with a half-page of blank space where the ad was supposed to run, Lueth said.

Lueth pulled the ad after the student publications Board of Control on Monday sided with the administration in its efforts to stop the ad.

The six-member board oversees the newspaper's operations and provides guidance and advice. It consists of a student government leader, two other students, two newspaper staff members and the newspaper's adviser, Jennifer Durham.

The board decided that future ads by Cheri Champaignes could run only with board approval. If the board does approve future ads, Sickelsteel said, the college still has the right to ban them.

It is too early to tell whether the next issue, tentatively scheduled to be distributed Nov. 29, will contain the ad, Lueth said.

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Caltech Sets New Gift Record

Caltech received more than \$97 million in gifts during the fiscal year ending last September 30 from some 8,200 donors, the highest number of contributors in the 97-year history of the Institute. "This is an increase of \$17 million over last year, and is the largest amount ever recorded in the history of Caltech," said Vice President for Institute Relations Theodore P. Hurwitz.

"It is particularly impressive since there has been a decrease in fund raising since passage of the

1986 Tax Reform Act and the stock market plunge of October 1987," Hurwitz said. "Final figures are not yet available, but this may be the first year since 1976 that shows a general decline in fund raising."

The \$97,425,992 in funds raised in 1987-88 is certain to rank Caltech among the top of all U.S. colleges and universities. For the 1986-87 fiscal year, statistics from the Council for Aid to Education showed the top ten university recipients of private support received between \$91 million and

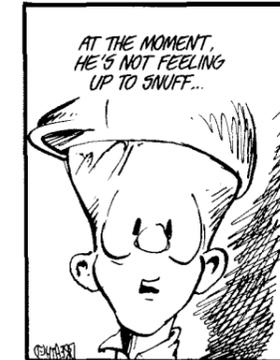
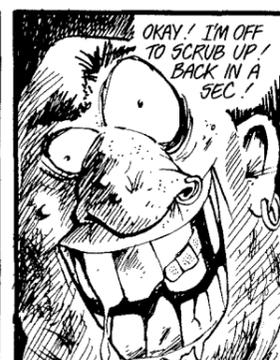
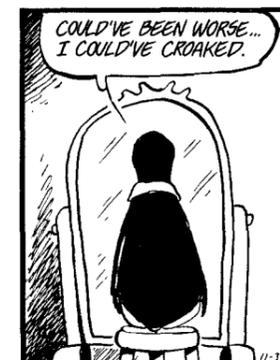
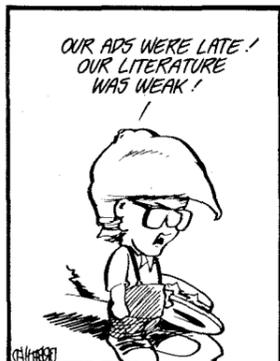
\$198 million. Caltech, which is significantly smaller than any of those ten institutions, has about 1,840 students almost evenly divided between undergraduate and graduate students.

"The record-breaking year in fund raising is a real tribute to our excellent faculty and students," said Hurwitz. "It also reflects the loyalty of the Institute's alumni, trustees, and other long-standing friends like the Caltech Associates."

continued on page 9

BLOOM COUNTY

by Berke Breathed



BLOOM COUNTY

by Berke Breathed

MILO?
YEAH?
THE ELECTION STUFF IS OVER, RIGHT?
RIGHT.
PROMISE THERE'S NO REASON TO EXPECT HAVING TO SUFFER EVEN ONE MORE TINY MICRO-SECOND OF INANE '88 CAMPAIGN BABBLE.
I PROMISE. NOW PUT IT DOWN.
WHEW!
KIDS: REMEMBER, TRY THIS WITH PAD ONLY WITH A SQUIRT BAZOOKA.

STOP IT. PUT THAT DOWN.
DEFEND YOURSELF.
I AM NOT GOING TO PAR...
SPLAT!
NOW LOOK! DEFEATED DUKAKIS CLOSET-LIBERALS LIKE ME JUST DON'T BELIEVE IN SNOW-BALL FIGHTS!
I'M SURE OF IT. LEMME CHECK MY A.C.L.U. CARD...
SEE? WE'RE RIGHT BACK TO THE CRAPOLA.

THE FAMOUS "PERFORMANCE ARTIST" BEGINS A NEW MASTERPIECE:
"ICE CRYSTALS... WHITENESS... FLOATING..."
A GROWING PILLAR OF BEING... I AM ONE WITH HEAVEN... 'LO! I AM...
NOTHINGNESS!
SKEPTICAL CRITIC OF MODERN ART FIXIN' TO BESTOW HIS REVIEW



TODAY'S MEDICAL SPECIAL:
LIPOSUCTION EXPLAINED
FOR LATER REFERENCE
Clip N' Save!
WHAT IS IT?
LIPOSUCTION IS THE "VACUUMING" OF UNWANTED FAT CELLS FROM PARTS OF THE BODY IN NEED OF SLIMMING.
EPIDERMIS
FAT CELLS
SLURP!

HOLD MY CALLS, PLEASE. I'M OFF TO HAVE MY NOSE LIPOSUCTIONED.
YOU HAVEN'T HEARD?
HEARD WHAT?

EXCUSE ME... I'M LOOKING FOR A CERTAIN GENTLEMAN...
"GUIDO THE BACK-ALLEY LIPOSUCTIONIST."

WHERE DOES ONE GET IT?
YOUR LOCAL LEGAL LIPOSUCTION CLINIC.
WHO HAS IT DONE?
ANY INDIVIDUAL WITH A LOCALIZED WEIGHT PROBLEM.
PROBLEM AREA

THE SUPREME COURT RULED IT UNCONSTITUTIONAL LAST WEEK... AND YOU KNOW WHAT THAT MEANS...
ILLEGAL BACK-ALLEY LIPOSUCTIONS!!
I'M LEAVING BEFORE THIS GOES ANYWHERE.

WHO'S LOOKIN' FOR IM?
UH...
PROBABLY THE A.M.A. NEVER-MIND.
C'MERE...



HE'S BEEN BUTCHERED!!
STOP SAYING THAT!!
HAS ANYBODY CONSIDERED THAT MAYBE OPUS IS FEELING POSITIVE ABOUT HIS NEW LOOK?

NOSES OF SHAME
• A BRIEF REVIEW •
NOVEMBER, 1986:
A BAD NOSE JOB BY MICHAEL JACKSON'S PLASTIC SURGEON.
MARCH '87:
SLEPT ON HONKER WRONG AFTER SHOWER.
YAWN

OW!
ZIP!

IN FACT, I THINK I DO LOOK A BIT LIKE A YOUNG DON AMECHE NOW.
RIGHT! ABSOLUTELY!
MILO, HE LOOKS LIKE A MOSQUITO WITH GAS.
DO I?
NO!

OCTOBER '88:
SNEEZED WHILE FLOSSING UPPERS.
DECEMBER '88:
BACK-ALLEY NOSE LIPOSUCTION.
PRESENTLY 98.9% FAT FREE

I SAID I WOULD PAY FOR THE CONTACT LENS...

The Inside World

This week's Compleat Inside World was brought to you by:

Blacker: Marty O'Brien and Rob Padula
 Dabney: David A. Edwards
 Fleming: Chris Habecker
 Lloyd: none submitted
 Page: Gary Eastvedt
 Ricketts: none submitted
 Ruddock: file unreadable

Blacker:

This week's Inside World has been pre-empted so that we may bring you the following incongruous garbage. J.

The seniors are studly. The sophomores are studly. Beer KELROFers are studly. Kremlin is studly, but only for a while. And Chris Cusanza is a SuperFrosh.

Well, frosh, while the fear of the Black Hand may have passed, you still must face the Shitkickers of Antioch.

Ben didn't get the 50 Free Women that he signed up for. Or the 50 Breast. Haircuts. People should use the word "troll" more often in their everyday speech.

Song for the week

200 bottles of beer on the wall
 200 bottles of beer
 Plus another 136 on the mantlepiece

—egassem terces a dnuof evah uoy ,snoitalutargnoC

Dabney:

Thanks to no one for filling in for me while I was on a two-week sabbatical. Because the instructors were unable to file their class synopses in time, the following classes to be offered winter term were unable to be included in the class schedule:

PA 24 (1-2-0) Dinner Announcements. The art of making ridiculous dinner announcements every night will be explored. Topics include: impromptu announcements, obscure announcements, announcements made just to hear yourself speak. Grading will be on quantity, not quality. Instructors: Schneider, Anderson.

BEM 10 (2-2-2) House Survival Skills (new requirement for freshmen). Practical application of common sense will be emphasized. Topics include: how to dial an extension from an extension, how to call JPL, the difference between one long ring and two short rings, how to sort mail, how to take a message. Instructor: Edwards.

PI 33 (3-0-6) God as Self. Exploring the deity within the ego through discussion, arrogance, and dominance. Topics include: giving angels their wings, talking through a large phallic symbol, proper attire, pitch of voice, successful auditions for game shows. Instructor: Lemoff.

PA 51 (0-5-0) Waiting Skills. The must-take course for any Dabney House waiter. Topics include: rudeness, taking plates away before people are done with them, stomping on cups, patrolling the entrance to the dining room, giving exactly the wrong amount of ice, forgetting who ordered what, loitering in the kitchen, putting body hair in dishes full of food. Instructor: Rubimov. TAs: Wyckoff, Craft, Dukhovny, Hamkins, Flowers.

Bi 15 (3-3-3) Gynecology. The study of the female anatomy in gory detail. Audiovisual and printed materials will be used. Each student must be prepared to bring a pair of handcuffs to use in place of stirrups for the lab section. Instructor: Runge.

Ma 146 (3-0-6) Gestalt Number Theory (new requirement for freshmen). The study of this oft-neglected and oft-misunderstood science, as taught by those who learned from the masters. Observation techniques will be emphasized. Instructor: Lemoff.

PE 1d (0-3-0) Second-String Football. How to maintain a second-string career with the career football team. Topics include: bragging about accomplishments, maximizing playing time while minimizing injury, promoting Caltech football games by erroneously reporting that refreshments will be served. Instructor: Hanna.

—The Office of the Regisdarb

Fleming:

I suppose you all think that I spent my Thanksgiving vacation sitting around thinking up new and exciting things to put into the Inside World. You thought wrong. So let's start off with a rousing rendition of the Top Ten List.

The Top Ten things that piss me off.

10. People who take this place seriously.
9. Being served four pounds of rice at lunch.
8. The Broncos' Super Bowl record.
7. Geeks. (See fl10)
6. Jack-In-The-Box commercials.
5. McDonald's workers who scratch their genitals.

4. — who park backward on San Pasqual.
3. Bare feet and slimy bodies in the kitchen.
2. Cat shit in the courtyard.
1. Hair on hotel soap.

Tuesday our swimming juggernaut propelled its way to numerous qualifications. Of course the finals were yesterday, but I had to turn this in two days ago, so I have no idea who won.

Monday night the frosh class decided to share a whole beer before dinner. Needless to say, they became quite inebriated and decided to create ultimate mayhem. There were numerous rules broken during the course of the night, two of which warranted milk floats. (You can't float a man, frosh!) The head waiter seemed to be the target of choice for the flailing frosh, but few found the coordination necessary to hurl a napkin ten feet in a straight line. And what did they think they were going to do with those pitchers and buckets? Oh, I forgot, I wasn't supposed to see them sneaking up on me. The head waiter was dampened, but he still remains unfloatable, and unfloatable. And to think that all of this was in celebration of my return from Thanksgiving vacation. What a nice gesture.

Wednesday night saw the inauguration of Pay Geefing. Two dollars gets your favorite person hosed down with an air-charged fire extinguisher. Of course the blast radius of a geef is enough to involve more people than you planned, so beware of retaliations. Back geefs are encouraged because Kent is a sadistic, torturous, psychopathic glutton for destruction. You can see it in his eyes... they don't track together.

It seems a couple Page frosh were unfortunate enough to be seen loitering around Alley Two Tuesday night. I don't know why they were there or if they were the geeks who "borrowed" some film out of Frosh Ho's camera, but they looked unhappy and in need of a washing. I wonder if the Page boys will be upset and try to retaliate. Not too likely, I imagine. Of course if their foul ice-bitches decide to let them have their balls back for a while, there just might be some action. Again, highly unlikely.

Newsflash: 196 days 'til graduation.
 Ditch Day is tomorrow, frosh!

"Words fail to do him justice"
 —The Albino

Page:

Q: What happens when the Pasadena Fire and Police Depts. and 100 Techers get together for a midnight rendezvous (induced by Page House pyrotechnics)?

A: Page House can boast its first convict!

And here's how it happened:

Jason to Gary:

"Carl said something smart to a cop, so they handcuffed him and put him in the back seat."

Gary to Emmeline:

"Carl smarted off to some lame copper thug, so they arrested him, cuffed him, and threw him in the back seat!"

Emmeline to Chuck, Jennifer, & Keana:

"Dude, Carl like smarted off and the cops found drugs on him, so they like arrested him with handcuffs and everything and the last I heard, they threw him in the back seat and dragged him off to jail, dude!"

Keana (solo) to Chow:

"Carl farted and the cops found drugs on him, so they arrested him and put handcuffs on him and beat him up in the back seat and then they took him to jail."

Chow:

"Really?!"

Outcome:

Carl is currently serving a reduced sentence for drug possession and air pollution pending a law suit of police brutality.

Other things:

Congrats out to the twangin' Prez. For those who sleep through life, our Jimmy is the first person ever to classify car groups and integrate with respect to his mother! Looks like it could be a Nobel Christmas for a local celeb. Oooh! Aaah.

Apologies out to the latest victims of the Page House Pyros (a.k.a. the Anti Smokey the Bear Society). We didn't mean to burn your homework, but the outside heating system wasn't working!

Welcome to Page House, new social members, Manny Aranda and Kirill Something. Your \$15 is due now! Make checks or money orders payable to Gary Eastvedt. Thank you.

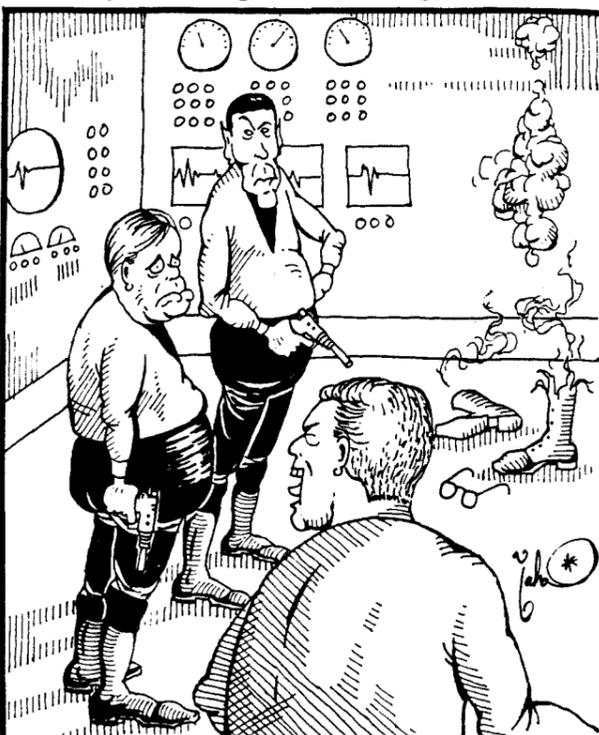
How can you say that the waiting staff sucks without being offensive? Oops! Did I...? Good.

That's all I feel like saying for this term and this year. Happy Holidays everyone. May your presents be large and expensive!

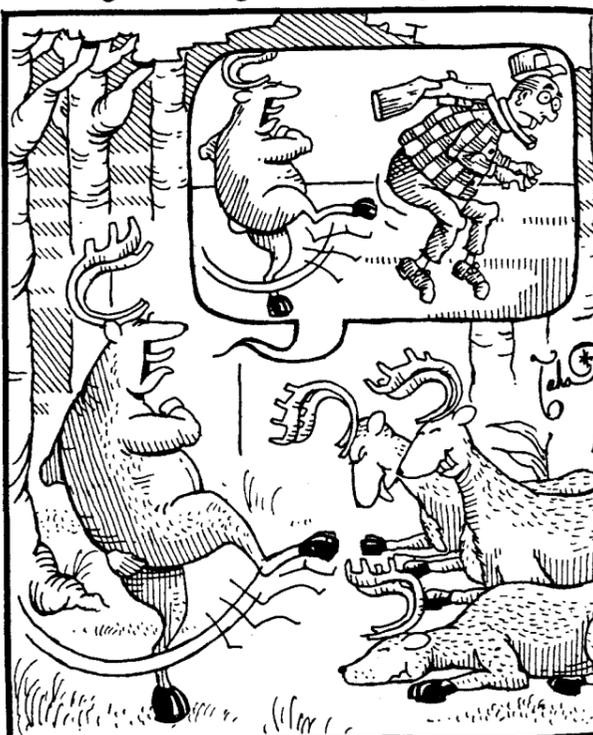
—Dirty White Boy

[In answer to how you can say that the waiting staff (public figures one and all) suck) without using the prohibited (except for public figures) ad hominum attack, you can say why their service is unacceptable or what it is that they are doing wrong, e. g. "The waiters are the most slime-covered, vermin-infested imitations of humans I have ever seen crawl out of the bowels of the Earth." Rather than objecting to them personally, you are then complaining that they: a) haven't washed the slime from their bodies, b) are infested with vermin unacceptable in food-service personnel, c) are inhuman (although this seems rather prejudiced on your part), and d) live in caves. Of course, to avoid libel, you should be able to substantiate that all of this is the literal truth. —PJS]

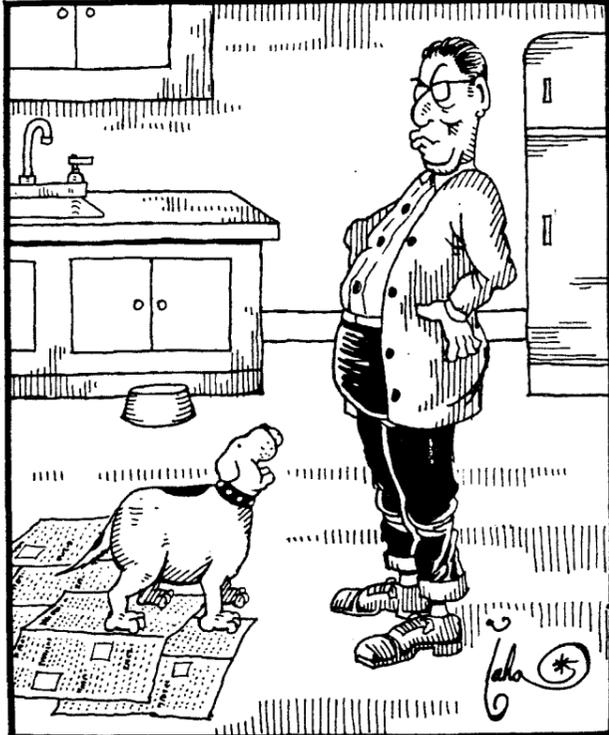
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Odyssey © L. Taha 1988



... I know what I said Scotty. I said stun. I distinctly said phasors on stun.

Animal tall tales of bravado.

I know this might sound silly but could you turn it to the editorial section? There's this columnist there that I really hate.

Pentagon Drug Testing Program Largely Ignored

Project Mathematics Receives Film Award

by Richard Whitmire
GANNETT NEWS SERVICE

WASHINGTON—The Pentagon's new "drug-free workplace" program is off to a sputtering start.

As of Oct. 31, every defense contractor was supposed to have a drug abuse program to screen employees in sensitive jobs. Those programs must include random testing for drugs.

But in fact, most defense contractors are barely aware of the new rule. Others mistakenly insist they meet the regulation by giving urinalysis tests to new workers.

"Our lawyers are still looking for definitions and explanations," said LTV Corp. spokesman Jim Croslin.

It started last June 15 when Secretary of Defense Frank Carlucci appeared before the House and Senate Armed Services committees. Carlucci was expected to offer more Defense Department radar planes and helicopters to the war against drug smugglers.

Carlucci offered little in additional weaponry, but he did offer an effort to create a "drug-free" environment among defense contractors.

"I have in mind testing, a mandatory testing program for employees that handle classified or sensitive matters or employees where safety is a paramount consideration, either at the workplace or in the final product," Carlucci told the committees.

But whatever Carlucci had in mind, it wasn't spelled out very clearly in the Federal Register, where changes in government rules and regulations are noted.

In a survey of a dozen major contractors, only one, General Dynamics Corp., has a program similar to what the Defense Department is looking for. And key parts of the General Dynamics program must be negotiated with its unions.

That will be a problem with any contractor trying to impose random drug testing on union workers. Even the Justice Department has been stalled in its attempt to carry out a "drug-free workplace plan" proposed by former Attorney General Edwin Meese.

A group of Justice Department workers, saying the program violates their constitutional privacy rights, have fought the Justice Department to a standstill in the courts.

The Pentagon's directive calls for drug testing to screen employees hired for "sensitive" positions, but it never specifically calls for random testing of employees on the job.

That has led several contractors to believe their program of pre-employment testing fits the Pentagon's directive.

But that's not the case, said Defense Department spokesman Maj. Dave Super.

"A contractor may perform this action (pre-employment screening), but it does not replace the requirement for later random drug testing," Super said.

Adding further to the confusion is the fact that the "interim" directive took effect Oct. 31, yet the Defense Department gave contractors until Nov. 28 to comment on the new order.

It appears backwards, agrees Super, but it is legal. Under "unusual and compelling circumstances," the Defense Department can issue an interim order prior to the 30-day comment period, he said.

"We agree wholeheartedly with the goal of a drug-free workplace," said Boeing Co. spokesman Lee Lathrop. "But it is a little fuzzy. We're taking a look to see what we would have to do to comply."

continued on page 10

Project MATHEMATICS! has received a major international award for its pilot videotape, "The Theorem of Pythagoras." This tape is the first in a projected series designed to use computer animation to help instructors teach basic concepts in mathematics. The 1988 International Film & TV Festival of New York has selected "The Theorem of Pythagoras" as the gold medal recipient in the Mathematics & Computer Science category.

Project MATHEMATICS!, a nationwide effort involving 32 states together with professional mathematics organizations, is based at Caltech. The project is headed by Tom M. Apostol.

Joining Apostol as co-director of the project is Dr. James F. Blinn, one of the world's leading computer animators. Well-known for his Voyager planetary flyby simulations, Blinn also collaborated with Apostol on the academic team that produced *The Mechanical Universe*, the award-winning physics course for television also developed at Caltech. Blinn created eight hours of animation for that 52-part series.

"*Project MATHEMATICS!* is building on the expertise developed in producing *The Mechanical Universe*," said Dr. David L. Goodstein, creator of *The Mechanical Universe* and vice provost at Caltech, where he is a professor of physics and applied physics. "Judging by the immediate success of 'The Theorem of Pythagoras,' it

certainly appears that Caltech will continue to make a significant contribution to the nationwide effort to combat scientific illiteracy."

Winners in the festival's Film, Video, Slide & A/V Productions Competition were chosen from among 3,100 entries from 22 countries.

During its initial phase, *Project MATHEMATICS!* is focusing on high school geometry. Each module will consist of a videotape, 10 to 15 minutes in length, and a workbook to guide students through the video, elaborating on the important ideas. The modules will be used as support material for existing courses in high school and community college classrooms. Blinn's animation will enhance mathematics education by the use of motion, color, sound, and special effects that cannot be reproduced in a textbook or at the chalkboard.

MATHEMATICS! has already attracted as partners the departments of education of 32 states—including California, New York and Texas—in a consortium whose members will reproduce and distribute the videotapes and written materials to public schools. In addition, *MATHEMATICS!* has been endorsed by the two largest professional associations of mathematics teachers, the Mathematics Association of America and the National Council of Teachers of Mathematics.

Initial funding for the pilot videotape was provided by grants

of \$50,000 each from the Association of Computing Machinery Special Interest Group of Computer Graphics (ACM/SIG-GRAPH), and the Educational Foundation of America.

To reduce costs, Apostol and Blinn are establishing a network of personal computers and videotape recording and editing equipment to produce videotapes on the Caltech campus. Recently ACM/SIG-GRAPH made a grant of \$120,000 for this effort, and additional support to complete the project is being sought from foundations and corporate sponsors.

More Gifts from page 5

Gifts from individuals in 1987-88 accounted for nearly \$66 million of Caltech's \$97.4 million fund-raising total, including \$30 million from industrialist Arnold O. Beckman and his wife, Mabel, for the Beckman Institute, a biochemistry center scheduled to open its doors next fall.

Foundations contributed \$20.9 million, including the final payment from the W.M. Keck Foundation of its \$70 million pledge toward construction of the W.M. Keck Observatory in Hawaii.

Corporations contributed \$10.9 million, 70 percent from members of its Industrial Associates program.

According to J. Thomas Gelder, Caltech's director of development, "Approximately 45 percent of Caltech's 16,000-plus alumni make annual cash gifts to the Institute. This becomes even more impressive when you realize that half of our alumni were here as graduate students. This expression of loyalty makes Caltech a very special place indeed."

Red Cross Disaster Training

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sports

WEEKLY SPORTS CALENDAR

Day	Date	Time	Sport	Opponent	Location
Fri.	12-2	TBA	Basketball	Redlands Tournament	Redlands
Sat.	12-3	TBA	Basketball	Redlands Tournament	Redlands

WEEKLY SPORTS RESULTS

Day	Date	Sport	Opponent	Results
Sat.	11-18	Basketball	Menlo College	42-84
Sat.	11-19	Basketball	UC Santa Cruz	53-60
Sat.	11-19	Fencing	Oxy, UCSD	Vs. Oxy 8-1 in foil, 4-5 in epee, 7-2 in saber, and 3-13 in women's foil Vs. UCSD 3-6 in foil, 2-7 in epee, 2-7 in saber, 2-14 in women's foil
Sun.	11-20	Football	Pasadena Police	39-12
Mon.	11-21	Basketball	Pac. Coast Baptist Bible College	59-32
Tue.	11-22	Basketball	Christ College	73-89
Wed.	11-23	Swimming	Cal State Univ. San Bernadino	Men won, women lost
Mon.	11-28	Basketball	Pac. Coast Baptist Bible College	65-46
Thu.	12-1	Basketball	Redlands	52-100

More Wrestling

from page 11
ly when he scored the first takedown against Cal State Bakersfield, but eventually moved up to 126 lbs., where he found competition much tougher. Gordy finally made it all the way through a match against San Diego CC.
And even when our wrestlers were not competitive due to lack of

experience, steady improvement during the season in both technical proficiency and physical conditioning made all of the pain and suffering worthwhile (?).
Next year's team should be considerably more experienced than this year's team was. With the addition of a few freshman, we may even fill all of the weight classes. Who knows, maybe we will even schedule a home meet.

Y Book Exchange

Bring your used, unwanted textbooks to the Y. We take them, display them on our bookshelves, and sell them to poor suckers who will use them in the future. They get a good deal on textbooks, you get some of your money back. Let's band together to beat high textbook prices. The Y also has ring and report binders, and novels new and old.

More Drugs

from page 9

General Dynamics' plan targets three groups of workers for random testing, which the company refers to as preventative testing. "We stayed away from the term 'random,'" said William Persky, corporate director for safety and health.

The groups include:
- Employees with a "high degree of trust and confidence," including the company's top officers.
- "Safety-sensitive" workers, such as crane operators.
- "Security-sensitive" workers, those holding a top-secret clearance.

Persky was unable to estimate how many of General Dynamics' 105,000 workers will be affected. But there are 1,200 who hold top-secret clearances, he said. Testing is scheduled to start early next year.

Whether drug use at defense plants is a special problem remains an unanswered question. Late last month, a sweep through Camden, Ark., included the arrests of 20 workers at the LTV Missiles and Electronics Group plant there.

Persky said General Dynamics attempted to estimate its drug problem among workers by hiring an outside group to visit plants and talk to employees.

"Yes, we've got a problem, but no more of a problem than the general population," Persky said.
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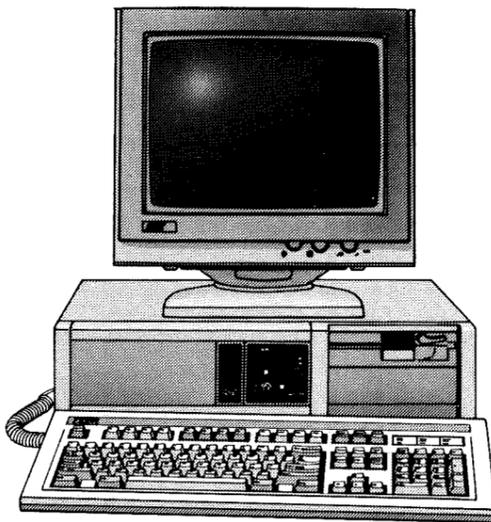
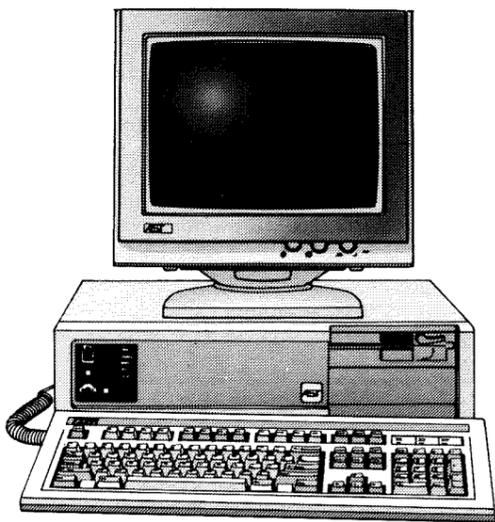
Social Security Booklet

Social Security? Many people only know half the story. Get the whole story from the free booklet, "Social Security, How It Works For You." Call toll-free 1-800-937-2000 to request the booklet.

Women's Trip To Scandinavia

San Jose State University is sponsoring a travel program to Scandinavia in June and July 1989, focusing on women's issues, including equality, government, representation, sports, the arts, academia, and the women's movement. There will also be seminars on international networking, women's organizations, and the history of women in each country visited, as well as a chance to meet local feminists. The tour, led by Dr. Margaret (Meg) Bowman, noted feminist author and a member of the sociology department at SJSU, departs the U.S. on 27 June, and will include Norway, Sweden, Denmark, and Holland, returning 15 July. An optional extension includes a week in London. For further information, write: Travel Programs, Office of Continuing Education, San Jose State University, San Jose, CA 95192-0135.

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Wrestling Season Ends, Pain and Suffering Worthwhile

by Sean Tavtigan

The Caltech wrestling team ended its 1988 season with a tournament at Cal Poly San Luis Obispo. This year's returning juniors Manuel Aranda and Gordon Proieschi recruited juniors Kahn Lim and Jong Kim. They were joined by freshman Albert Ho and Shane Sauby. Finally, Matt Fetterman and Tal Schwartz attended the last two weeks of practice.

Until 1985 wrestling had been a SCIAC sport. After the others schools in our league dropped wrestling, Caltech was left as the only Division III school in California with a wrestling team. Subsequently, the athletic department decided to move wrestling from the winter to the fall so that we could compete with junior colleges instead of Division I and II universities.

This has proven to be a good choice. We can now schedule a reasonable number of matches and tournaments at a fair level of competition. Lin Parker, who coached the wrestling team until 1986, sets up the schedule, while Tim Cotter

and grad student Sean Tavtigan share the coaching.

This year's team participated in four tournaments, one three way meet, and two dual meets. The most fun meet of the year was a freestyle tournament at Santana

High School, outside of San Diego. Despite Tim's car catching on fire en route, everyone made it in time.

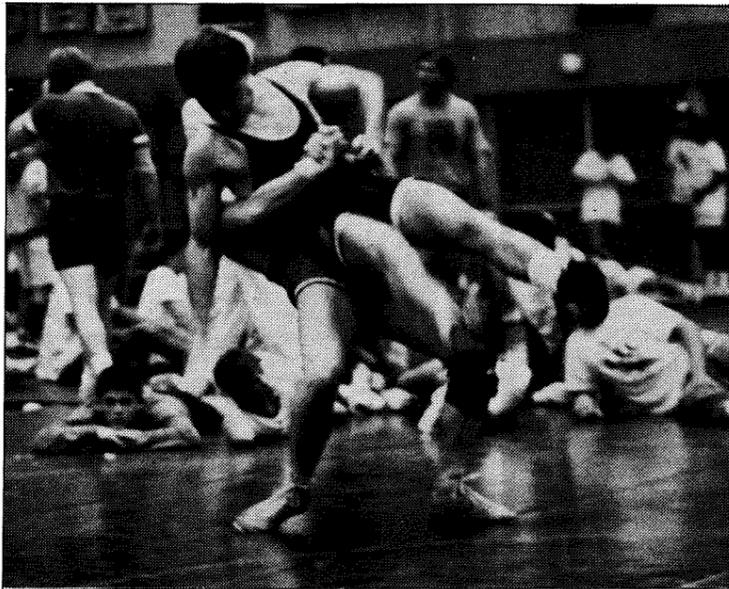
By virtue of his age, Albert slipped into the high school division, where he won his first match.

Gordy (fish) was salted four times in two matches. Manny became the first Caltech wrestler to compete against a novel species of athlete, the Surfer-Dude Wrestler-From-Hell.

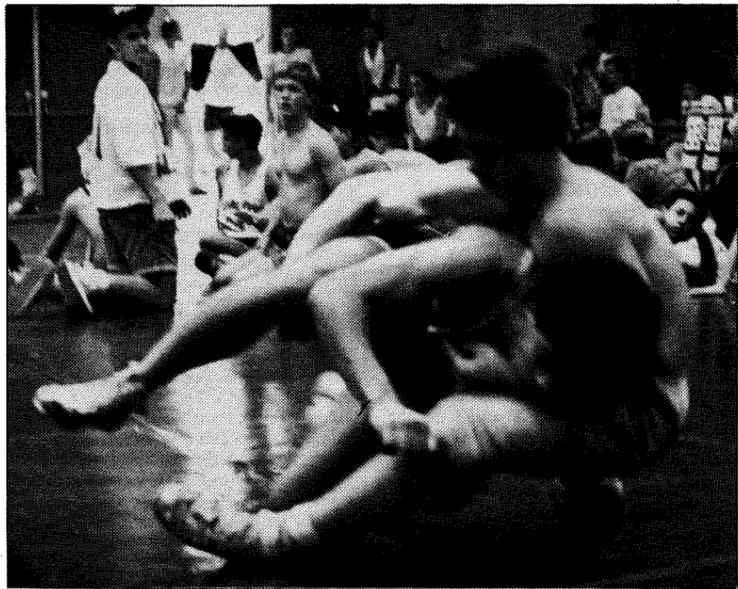
Throughout the season Manny

put in a solid performance at 142 lbs., winning his match in the dual meet against Rio Hondo, and consistently keeping the score close in the rest of his matches. Albert looked good at 118 lbs., especially

continued on page 10

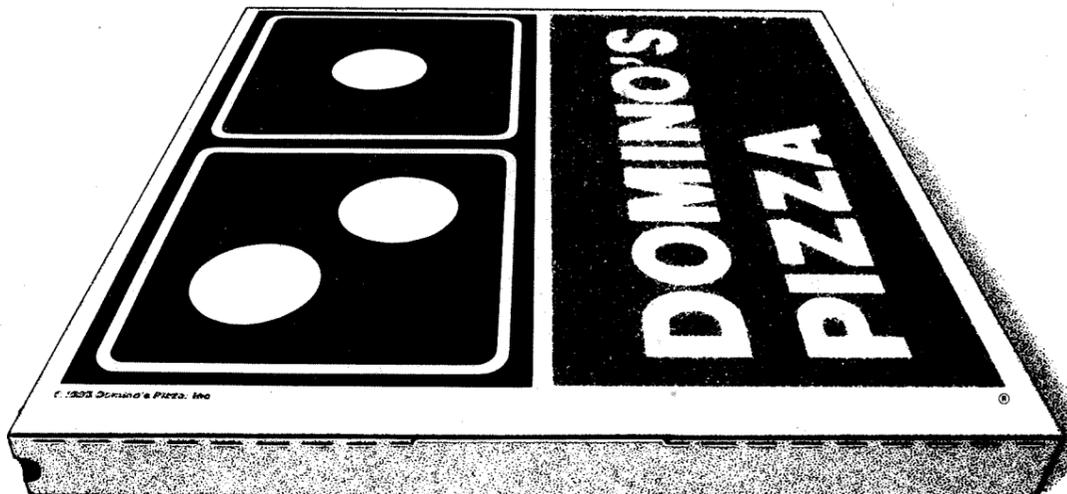


Gordy goes for a ride, courtesy of the U.S. Marines



Manny shoots a single leg takedown on a surfer-dude wrestler-from-hell.

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companion to the PBS television series
Richard M. Restak, M.D.
\$29.95 (hardcover)

Computer Viruses

A High-Tech Disease
Ralf Burger
\$18.95 (trade paperback)

Numerical Recipes in C

The Art of Scientific Computing
Press, Flannery, Teukolsky, Vetterling
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what goes on the back page

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

JPL Open House

JPL is celebrating NASA's 30th birthday with an OPEN HOUSE to be held Saturday, December 3 at the JPL Oak Grove Drive facilities. Bring the whole family, all are invited to attend. The Open House celebration will run from 9:00 am to 5:00 pm and will feature exhibits, displays, flight project and program presentations, the viewing of Galileo flight hardware in the Spacecraft Assembly Lab, the acoustic levitation lab and much more. The ERC and the main cafeteria will be open too.

Coffeehouse

The Coffeehouse will be open through tonight, Dec. 2, for evening service, and through Sunday, Dec. 4 for lunch service, noon-2:00 pm. From Dec. 5 to Jan. 2 the Coffeehouse will be closed for business. We will reopen Tuesday, Jan. 3, 8:00 pm to 1:00 am. Have a wonderful holiday break!

The Chimes of S.P.E.C.T.R.E.

Take a break from your vicious and cruel finals!! (Oh yeah, graduate students and frosh are welcome...) S.P.E.C.T.R.E., the Caltech Science Fiction Club, will be meeting on Wednesday, 7 December 1988 at 7:30 pm in Clubroom B (Rm. 15) of the SAC. After the regular meeting we will continue the saga of *The Prisoner* with episodes 2 and 3 ("The Chimes of Big Ben" and "A. B. and C.") If you have any questions please feel free to bug Mark Looper (304-0006) or Eric C. Johnson (578-9364).

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Health Center Holiday Hours

The Health Center will only be open between 8:30 am and 3:30 pm from December 12 to January 2. The Health Center will resume regular working hours on January 3, 1989: 8:00 am to midnight, Monday-Friday.

AIDS Testing at Health Center

HIV (AIDS) testing is available at the Health Center at a reduced cost of \$9.50. Testing is anonymous, completely confidential, and results are usually available in 24 hours. NOTE: No appointment is necessary.

Gay/Lesbian Discussion Group

The Gay and Lesbian Discussion Group meets the first and third Tuesday of each month. The next meeting will be held on Tuesday, December 6, in the Health Center Lounge. Refreshments will be served. For further information please contact Bruce Kahl, x6393.

Garbage In, Garbage Out

The Environmental Study Group is arranging a tour of the Scholl Canyon Landfill (dump, for the less technically inclined) on the afternoon of Thursday, Dec. 8. If you would like to visit the recent past of all Pasadena, contact Craig Steele, x4840 or (213) 257-4052. Space is limited, both for the tour and for trash, so if you are interested in seeing the full glory of a disposable society, better make your reservations quickly.

The Gift That Keeps On Running

Looking for a Christmas gift idea? How about a KELROF 24-Hour Relay T-shirt!! If you have run KELROF, helped KELROF, heard of KELROF, not heard of KELROF, or despised KELROF, you are entitled to buy one. They are currently on sale at the Y for \$5.00 each. Get them today.

Amelia Earhart Memorial Money

The Zonta International Foundation offers \$6,000 grants in memory of Amelia Earhart to women for graduate study in aerospace-related science or engineering. Deadline: 31 December 1988. For information contact the Financial Aid Office, 515 S. Wilson.

Professional Engineering Dough

The National Society of Professional Engineers offers scholarships to undergraduate and transfer students pursuing a degree in engineering. Deadline: 1 December 1988. For information contact the Financial Aid Office.

More Engineering Money

Equal Opportunities Publications, Inc. offers two non-renewable \$500 scholarships to honor outstanding women, minority, or handicapped students pursuing careers in Engineering. For information contact the Financial Aid Office.

Goddard Memorial Scholarship

The National Space Club will award a \$7,500 scholarship for the 1989-90 academic year in memory of Dr. Robert H. Goddard. The 1989 award winner will meet national leaders in science, government, and industry. Applicants must have finished sophomore year, possess US citizenship, and intend to pursue undergraduate or graduate study in science or engineering during the scholarship term. Deadline: 6 January 1989. For information contact the Financial Aid Office.

National Roofing Bucks

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

Arizona Honors Academy

The Arizona Honors Academy will offer a three-week seminar for exceptional undergraduates this summer, providing opportunities to discuss important world issues with writers, sovietologists, national security officers, historians, physicists, and arms negotiators. Deadline: 15 January 1989. For information contact the Financial Aid Office.

SAMPE International Awards

The Society for the Advancement of Material and Process Engineering will provide 27-\$1000 awards in international competition in April. Students in their freshman, sophomore or junior year may apply. Applicants must be recommended by the department head or scholastic advisor. Deadline: 1 February 1989. For information contact the Financial Aid Office.

Play With Money

The Caltech Student Investment Fund meets every Wednesday in Millikan Board Room at 5 pm. We have over \$140,000 we use to buy and sell stocks and bonds. Profits buy pizza and soda for every meeting, and pay for dinner at year's end.

Polish Workshop

The Polish Language Workshop offers the opportunity to learn or review Polish in a friendly, relaxed atmosphere. It meets Thursdays from 7:30-9:30 pm in 210 Thomas September through June.

Need A Club Mailbox?

Club mailboxes may be obtained from Nancy Matthews (SAC room 50) or Milly Pena (SAC room 38) between 1:30-3 pm, Monday through Friday.

Yet Another Totem Poll for Art

Attention writers, poets, and artists! The second *Totem* in as many years will appear this spring and will contain a diverse, if not complete collection of Techer-expressed wisdom and imagination. Address submissions to 116-58. For information contact Sam Dinkin (1-59 or x3828), or Erik Russell (Annex #5, 1-59, x6188). Copies of previous issues of the *Totem* are available.

Super Bowl Of Chili?

The 5th annual Super Bowl of Chili will be held at El Cariso Park on Saturday 3 December from 10 am to 6 pm to benefit the Wildlife Waystation. The day's events include The News Media Challenge, \$3,000 in prizes, a trip for two to Hawaii, live country music, an auction, contests for ugliest boot, best hat, Miss Chili Pepper, cook's showmanship, "People's Choice" chili and a petting zoo. Admission is a \$2 donation. Take the 210 freeway to Hubbard exit, go north 6 blocks to El Cariso Park (on right). Enter the top parking lot. For further information, please call Kenn Kingsbury at (213) 419-8142 or Maureen McFadden at (818) 786-2347.



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Red Door Cafe Needs You!

The Red Door Cafe has undergraduate work-study positions open. It pays \$6.00 per hour and is a lot of fun. Meet your work-study obligations and meet new people. Call Sharon at x4757, or 577-1953, or drop a note to 218-51, The Red Door.

Leadership America

The International Leadership Center is seeking applicants for Leadership America, a summer program which includes one week in North Carolina, one week in the Rocky Mountains and three weeks in Dallas, Texas. It also includes a four-week internship in business, government, or community service followed by a closing session in Washington, D.C.

Students incur few expenses in Leadership America, since most costs are underwritten by corporate sponsors.

To be eligible for selection to Leadership America, a student must be currently enrolled in a four year (or more) undergraduate program and have completed the junior year of this program by June 9, 1989. The primary criterion for selection is that the student have an "outstanding potential for leadership." Selection will begin in February, 1989, and invitations will be extended in mid-March.

For additional information about Leadership America, contact the Deans' Office, 102 Parsons-Gates, x6351. Applications for this program must be returned to the Deans' Office no later than Jan. 30, 1989.

The Muppets Take Caltech

Do you have a talent for drawing? . . . painting? . . . making puppets? Well, have we got a competition for you! Jim Henson's (yeah, the Muppet Man!) *Character Design Competition* can actually win you BIG BUCKS! Your assignment is to create "a two-character team of any nature or creature type." Lotsa leeway, huh? The "jury" will be looking for originality of concept and quality of execution—but the actual style of the characters is up to you! The sky's the limit: anything from a three-faced animated fire hydrant to a purple Spuce (of course, everyone knows REAL Spuces are green with yellow and orange beaks).

The presentation can be in any medium: slides, 2D or 3D, puppets, videos, software—but no "live" performances! The deadline for all entries is 24 February 1989, so start concocting some goodies now. Only entries from full-time undergraduates and graduates will be accepted. The deadline for receiving the artwork at Jim Henson Productions is 1 March 1989.

Now for the important part: First Prize—\$1000; Second Prize—\$800; Third Prize—\$600; Fourth Prize—\$500; and Fifth Prize—\$400. To receive an entry blank, call Will Morrison at Jim Henson Productions, (212) 744-5207. (Come see the posters in the SAC at the California Blvd. entrance and at the Orange Walk entrance).

Good luck—and remember, it takes Teachers to come up with the truly freaky.

Free AIDS Speakers Available

At no charge, members of the American Red Cross AIDS Speakers Bureau will come to speak to groups of six people or more and present the facts about Acquired Immune Deficiency Syndrome—AIDS.

The presentations stress the methods of transmission and prevention of the disease, and include a video as well as a question and answer period. For information, please call the Pasadena chapter of the American Red Cross at (818) 799-0841.

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Planetary Society Scholarships

The Planetary Society is offering five \$1,000 awards to students majoring in engineering and science. Awards will be made on the basis of scholastic achievement, a commitment to a career in planetary related science, and a written essay on a relevant topic. The deadline for completed applications is 15 April 1989. Mail-in cards for further information are available in the Financial Aid Office, 12-63 (515 S. Wilson, 2nd floor).

Big 10 Graduate Fellowships

The Committee on Institutional Cooperation (the athletic Big 10 plus the U. of Chicago) is offering fellowships designed to increase the representation of American Indians, Black Americans, Mexican-Americans and Puerto Ricans among Ph.D. recipients in the basic social science disciplines. Each award provides full tuition for the academic year plus an annual stipend of \$9,000. Interested minority applicants should contact: CIC Minorities Fellowships Program, Kirkwood Hall 111, Indiana University, Bloomington Indiana 47405. The application deadline is 6 January 1989.

NRC Research Associateships

The National Research Council has Resident, Cooperative and Postdoctoral Research Associateship programs for research in the sciences and engineering to be conducted on behalf of 30 federal agencies or research institutions, whose 115 participating research laboratories are located throughout the United States. The programs provide opportunities for Ph.D. scientists and engineers of unusual promise and ability to perform research on problems largely of their own choosing yet compatible with the research interests of the supporting laboratory.

Approximately 450 new full-time Associateships will be awarded on a competitive basis in 1989. Awards are made for one or two years, renewable to a maximum of three years; senior applicants who have held the doctorate at least five years may request shorter tenure. Annual stipends for recent Ph.D.'s for the 1989 program year will vary from \$27,150 to \$35,000, and will be appropriately higher for senior Associates.

Applications must be postmarked no later than 15 January 1989 (15 December for NASA) for the first competition, 15 April and 15 August for the later competitions. Information and applications may be obtained from: The Associateship Programs (GR430A-D1), Office of Scientific and Engineering Personnel, National Research Council, 2101 Constitution Ave. N.W., Washington, D.C. 20418.

1989 Markey Fellowships

The Mount Desert Island Biological Laboratory announces the 1989 Markey Fellowship Program. Applications are invited from investigators in the biological and biomedical sciences for summer research at the MDI Biological Laboratory. Using vertebrate and invertebrate fauna from the Gulf of Maine, Laboratory researchers pursue diverse interests including the comparative physiology of the kidney, cell membrane transport, the mechanisms of cell division, and cellular and molecular aspects of environmental toxicology.

Preference is given to applicants several years beyond the completion of the doctorate demonstrating evidence of an independent research program and are still in relatively early phases of research careers. The Fellowships include laboratory space, housing, supplies and equipment, and other allowances. Applications and instructions for the preparation of proposals may be obtained by contacting the Laboratory at: Mount Desert Island Biological Lab P.O. Box 35 Salsbury Cove, ME 04672 or phone (207) 288-3605. Deadline for applications is 9 January.