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Today

The California Tech

Beach
Tomorrow!

VOLUME LXXXIX NUMBER 27

PASADENA, CALIFORNIA

FRIDAY 13 MAY 1988

Jumping Electrons

by Larry Cheng

The flier read "A Chemist Looks at Electron Transport in Biology. Harry B. Gray, PhD." Tickets had been handed out in Chem 1c lecture that Wednesday morning by Professor Gray to his freshmen students and teaching assistants. Many of them showed up that night. Also in attendance were members of the Prof's research group, and many others—even a large number of high school students (rumor had it that extra credit was in the air).

Those in attendance were treated to a lecture that was both enlightening and entertaining. After his introduction, Gray entered, without notes, refused to stand behind the "stupid podium" and instead walked around on stage, to better interact with the audience.

After informing the audience that the Dodgers had just lost their

ball game, Gray began the lecture, with slides for visual aid. He explained how chemists were now "sneaking up" on the secrets of how electron reactions and other reactions stored energy in living cells. "Food," Gray said, "makes electrons."

Theorists have claimed that these high energy electrons move down in energy through an "electron transport chain" which has yet to be fully explained. It is known that the same sort of process works in such machines as a car engine, but for some reason the cellular process is much more efficient.

Gray related how theoretical chemists had suggested that electrons could travel the large distances within certain proteins in a very short time, contrary to common belief. Gray then explained how electrons were later found experimentally to "jump" distances of

over ten angstroms, a significantly long way in terms of molecules, between different atoms in some proteins in a space of only one millionth of a second.

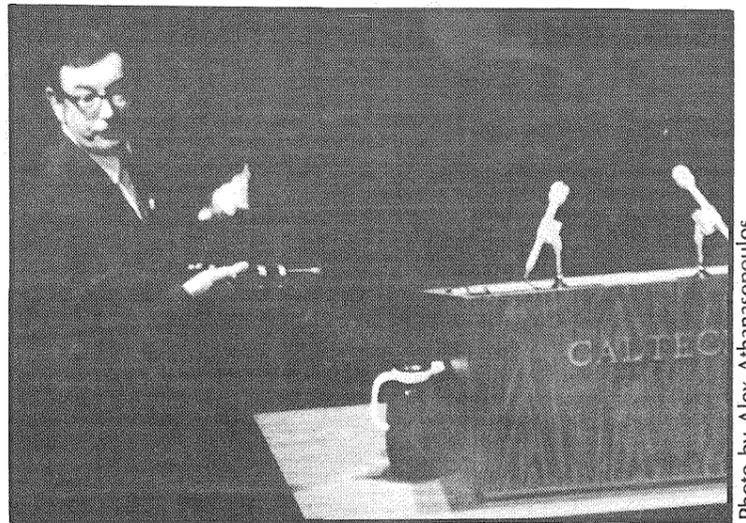
This seems to confirm the theory that "the stupid electron does jump." In comparison, electrons could only jump comparable distances over water molecules in the space of a month. Experiments by others in 1984 had even shown electrons to jump through steroids in the space of one billionth of a second.

He explained that steroids had much faster reactions because proteins possessed gaps between certain sections which slowed down their electron transfer rate. Gray then suggested benefits that could arise in the future from research concerning electron transfer in living cells, including the development of efficient energy storing fuel cells and the development of artificial photosynthesis.

During his lecture, Gray also informed the audience that chemistry was the "field of the eighties," and specifically that inorganic chemists were like the "marines," doing the hard labor to prove the theories of others.

Later, he also made an important point regarding the true intellect of various types of scientists, in referring to the of the slide projectors used in his presentation. Chemists, he said, would have trouble operating such machines. Physicists, he continued, would not. Biologists, he concluded, would not even notice the controls.

Gray had said at the start of his talk that he hoped that those present would get a flavor of chemists' style. If all chemists are half as engaging and silly as Gray was that night, that flavor would have to be wild grape.



Harry Gray illustrates the finer points of Electron Jumping in the Watson Lecture last Wednesday.

Photo by Alex Athanasopoulos

"Spare Parts"

by Eric Fung

Tuesday evening, the Caltech Y sponsored a panel discussion on "The Ethics of Organ Transplantation - The 'Spare Parts' Dilemma." The dinner was one of a number of activities sponsored by the Y. KPAS, a cable company servicing Pasadena, covered the event as well as other media.

Dr. Nancy Ascher began the presentation with an introduction to the current issues and problems surrounding organ transplantation. Ascher, Professor of Surgery and Director of the Liver Transplantation Program at the UCSF Medical Center, described the disparity between the number of potential donors of organs and the number of potential recipients. Decisions need to be made about the distribution of organs since many of the people in need of an organ are unable to receive one. Ascher asked whether there was an equitable way of distribution, and how one could be conceived.

"Society expects 'maximum use' of each and every organ vs. the rights of individuals vs. the con-

tract between the care giver and the patient," was the conflict she suggested as a primary cause of the problem. For example, she as a physician could promise to continue giving organs to a patient until he was well. This would conflict with the ideal that as many people as possible should receive organs, thus maximizing their use.

Another question regarding distribution she addressed was the method of prioritization. Presently, persons who are most gravely ill receive the highest priority despite evidence that these recipients are the least successful relative to others groups. Is this maximizing use?

Following dinner, Al Hibbs moderated a panel discussion. The panel consisted of Dr. John Roberts, a transplant surgeon; Dr. Robert Steinbrook, writer for the *Los Angeles Times*; Bettyann Kevles, author and columnist; and Cindi Yost, a kidney transplant recipient.

Kevles warned that society should avoid what she called the "slippery slope" syndrome; persons should not succumb to the belief that life will be easier if they ignore the moral and ethical issues. Other ethical issues she raised were the possibility of fetal and brain transplants and the question of the economics of transplantation.

Yost gave a different perspective to the issue. Being a recipient herself, she professed that she could not be totally unbiased in regards to such questions as equitable distribution. Describing her own situation, she said that she felt that she had the "spirit of the child [whose kidney she received] and family within her. They gave the greatest gift."

One of the most urgent questions raised by the panel was how the non-medical community could affect present practices. Kevles remarked that the decisions should not be made completely by medical experts, and that through education, people could become "lay experts." Yost believed that healthy persons should decide early whether or not they wanted to be potential donors.

Ascher said that individuals could affect government policy in large part by directing funding. For example, Oregon channeled money away from transplant to other health services in large part because of public pressure. The key, most panel members felt, was educating the general public about these issues so that they would be more aware and could thus make educated decisions.

Space Software

[CNB] A team of three Caltech undergraduates has won the grand prize in the "Race for Space Software Chase," co-sponsored by the Smithsonian's National Air and Space Museum and Apple Computer, Inc., it was announced today at a press conference in Washington, D.C.

The goal of the contest was to develop an interactive software program, using the Macintosh II computer, "that demonstrates how computers can give wings to aeronautical ideas that otherwise might not get off the ground." The winning program will go on display in the National Air and Space Museum's new Aerospace and Computing Gallery, scheduled to open in 1989, where it will be viewed by the 9 million people who visit the museum each year.

The winning program lets the person playing with it design a rocket and launch it into space. The designer may choose rockets with one to five stages. The designer selects either liquid or solid fuel for each stage, and determines how much thrust each stage should carry. The simulated rocket then takes off, and the program computes the height it would have reached.

The program was designed by three Caltech undergraduates. Pierce T. Wetter III, a junior in electrical engineering, was the team captain. He developed the basic concept and designed the program's simulation sections. Wetter, of Simi Valley, California, is a graduate of Royal High School. Glenn C. Smith, a junior in physics, designed the program's color graphics. Smith, of South Pasadena, California, is a graduate of South Pasadena High School. Michael Meckler, a sophomore in physics, designed and implemented the program's user interface. Meckler, of Columbus, Ohio, is a graduate of The Columbus Academy.

The grand prize includes eleven Macintosh II computers and a \$5,000 summer internship for one of the team members at the National Air and Space Museum. The team members will keep three of the eleven computers, and the remaining seven will become part of Caltech's Macintosh lab. Pierce

Wetter will be interning at the museum this summer.

"On behalf of the entire Caltech community, I'd like to congratulate Messrs. Wetter, Smith, and Meckler," said Caltech president Thomas E. Everhart. "Their program is beautifully designed, it's fun to play with, and it serves a genuine educational purpose. Those visitors to the National Air and Space Museum who are fortunate enough to get to play with this program will come away with a real sense of how aeronautical engineers use computers to design spacecraft. I'm particularly delighted that all of Caltech can share in the prize by using the new Macintosh II computers soon to be installed in the computing center."

Friedan on Feminism

by Josh Kurutz

"Like a dinosaur," was how Betty Friedan described Caltech in its treatment of women during her talk at JPL this Tuesday.

"The figures were so terrible, I couldn't believe it," declared Friedan, author of *The Feminine Mystique* and one of the nation's foremost feminists, referring to general statistics related to women's issues at Caltech.

"I couldn't believe they hadn't gotten a major class action suit for their actions," she said. Friedan based her conclusions on facts she learned and then presented at Caltech on April 4th.

She expressed particular surprise that no action had been taken against the Institute since more than half of its funding comes from federal sources. Such funds come with guidelines for their use that include anti-sex discrimination rules.

When she pointed out these facts at the April 4th talk, "there was a lot quavering in the audience." She told of how an undergraduate blared music out his window allegedly with the intent of drowning out her words. Friedan noted that the intrusion was followed by jeering in the audience.

"I wonder about the consciousness-raising of the men,"

she said shortly after presenting that evocative story. Throughout the talk, Friedan spoke of how unaware of these problems the men involved seem to be.

The Glass Ceiling

Friedan believes that the "glass ceiling" is an especially prominent problem facing the women of Caltech and JPL. The idea of the glass ceiling is that qualified women can only look at and idealize positions of high prestige, but they may not enter those posts because of an artificial barrier. She summed up the concept of the glass ceiling in the statement, "A woman is allowed to go so far, but no farther."

The speaker cited statistics about JPL's employment record. According to Friedan, 35% of JPL's employees are women; yet, of those women, 70% are secretaries or clerks, "who are not expected to go beyond that ghetto." 11% of the professional personnel are women, and 4 of 100 technical managers are women (but one is a librarian, a traditionally female job, and one is a lobbyist in Washington, so effectively 2% of JPL's technical managers are women). Higher than those managers, there are no women in

management.

Caltech was the setting of another example of the ceiling she spoke of. "There was a woman with an incredible record of getting scientific grants for her research at (Caltech). It looked for a while she was going to be denied tenure because the head of her department said, 'Well, we wouldn't really be comfortable with her around in faculty meetings.'"

The Comfort Level

The issue of "the comfort level" was presented as a cause of the glass ceiling. Friedan referred to the citation of the loss of comfortable working conditions as the ultimate recourse of men who had no facts to support their exclusion of women.

Friedan also spoke of the "bathroom problem," an early indication of the nation's resort to the "comfort level" excuse. The highly regarded author asked the then-head of NASA why women could not be astronauts. The answer she received was, "The bathroom situation in the space capsule would be too difficult to deal with." Later, she learned that, since there were no bathrooms in these capsules, please see FRIEDAN, page 11

The California Tech

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ENTERTAINMENT
Andrew Hsu

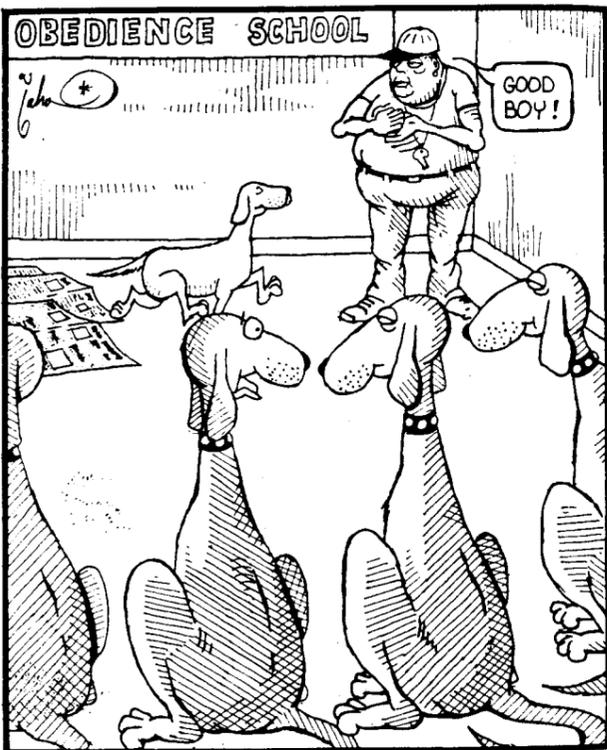
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Odyssey 5

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Is *that* all those newspapers are for? Whew! I thought we had to learn to read them.

opinion

Organ Transplant Ethics

by Eric Fung

As I sat down for the Y dinner Tuesday evening, I wondered to myself exactly what sort of ethical questions there could possibly be regarding organ transplantation. I had always believed that organ transplantation was an obvious "good"; it served the sick and saved lives.

I learned a lot from the lecture given by Dr. Nancy Ascher and the panel discussion afterwards. On a societal level, there was the question of the equitable distribution of organs that were in short supply. On an economic level, one had to wonder whether the selling of such organs was reasonable, and the implications it would bring about. On a personal level, I had to wonder whether I myself would be willing to be a donor and whether I would want to be a recipient.

Equitable distribution presents a serious question regarding what Ascher describes as a conflict between society's expectations, a physician's prerogatives, and a patient's rights or needs. Although no such conflict can be resolved satisfactorily, we must be prepared to address it.

Clearly, in prioritizing the list of potential recipients, we must respect medical precedent. For ex-

ample, it has been documented that the sickest are less likely to fare well with the new organ than patients who are not as ill. Furthermore, alcoholics and drug addicts who have willingly destroyed their own livers, I believe, are not viable candidates for transplants since they are just as likely to ruin their new organs. It is clearly wasteful to give these persons organs.

Another question that we face is the selling of one's own organs. One pressing example is a form of life insurance which lowers premiums in exchange for a promise of organ donation. The issue is also realized by the fact that there are black markets for organs.

Selling of one's own organs, in itself, should not be construed as being immoral since one should be permitted to treat one's own body as one sees fits. A serious problem, however, arises from serious implications, most notably the possibility that the only persons able to afford organs would be the rich. In such a scenario, the poor would be unable to afford organs, since organs would no doubt be a highly valued commodity.

This would seriously conflict

with a fundamental medical tenet that all persons, regardless of socioeconomic status, is fully deserving of adequate medical attention. (This, of course, raises another question of what exactly is "adequate" medical attention? Can organ transplantation be considered a luxury?) For this reason, such selling, unfortunately, must be outlawed and alternative means of supply must be sought.

How exactly can the demand be met? It is unreasonable to believe that the demand will ever be met by real organs (the possibility of synthetic organs is quickly becoming a reality), but best efforts must be taken to meet demand as closely as possible.

One such method is through voluntary donation, and this is where most improvement can be made. In the future, we must increase awareness of the problems that organ transplantation creates. Ignorant people like myself must be educated, in manners such as the Y did in sponsoring the programs it did. In doing so, persons will be encouraged to ask themselves seriously how such questions should be resolved and, more importantly, do something about it. I, for one, have changed because of my new awareness.

letters to the editors

Faith

To the Editors:

This June it will be twenty years since I graduated from Caltech. The anniversary has made me think: Possibly my thoughts may be relevant to the present student body.

After Caltech I went to graduate school at the University of California's Berkeley campus. It was like going from a monastery to a madhouse. From the late sixties through the mid seventies, Berkeley was a tumultuous place, full of people who were bound and determined to change the world. What's more, each of them seemed to have a different idea of how to go about it. I could scarcely pass through the campus gates without being accosted by handbill-distributors from every imaginable kind of political, social and economic action group, all bent on modifying civilization to suit themselves. There were libertarians and communists, republicans and democrats, churches both bizarre and familiar, ecological advocates,

draft resisters and military recruiters. The campus seemed overflowing with charismatic, impressive leaders, each with a separate agenda for social change.

Often there were demonstrations: I rapidly learned to cut through the back alleys to get to class. Sometimes there was real violence. Once I walked out of the student cafeteria after lunch, only to find a National Guard helicopter spraying the plaza with riot-control gas. I decided I had better go back inside and have dessert.

I was too bewildered to have anything to do with this. I gravitated toward a small, ever-changing circle of science buffs and technology enthusiasts, people much like myself. We had no charisma and impressed no one. We would go out for pizza and talk. The discussion topics changed as our informal membership varied—many liked space exploration, one was enthusiastic about computers, and so forth. If pressed, most of us would cautiously admit to some faith that scientific and technical developments were also important agents of social change, but in the midst

of widespread turmoil of a different kind, I found such a belief ever less tenable. As the years passed, it seemed increasingly that the things I was interested in could scarcely matter in comparison to those other, more powerful forces.

Yet in retrospect, it is remarkable how little came from the social and political movements of that time and place. I no longer remember the names of any of the Berkeley people who were out to change the world. I scarcely recall what they wanted to do. After a decade or two I must look hard to find our planet any different for all their efforts. It seems that in the long run, they mattered all but naught.

To my embarrassment, I have even forgotten most of the people in our group of pizza-eaters. Only recently did someone remind me of the name of the fellow who came to a few meetings and talked with such zeal about the prospect of small computers and their likely capabilities.

His name was Steve Wozniak. Keep the faith.

—Jay Reynolds Freeman

You're astute enough to discuss the philosophical ramifications of Victor Frankl's "Existential Vacuum."

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entertainment

May Day Tourney

by Lynne McGrath

On Saturday, April 30th, the Caltech Medieval/Renaissance Society held its annual May Day tourney. Encamped in the appropriately named Tournament Park, the company made a brave show in their multicolored pavilions, and enjoyed glorious weather while watching or participating in a double-elimination fighter's list. The victor crowned his lady Queen of May. Sean Johnston and Amy Carpenter were the principal organizers of the event, but it was Doug Bloomer who was responsible for the sold-out Turkey Leg Lunch, ably assisted by Pamela Walton, Lyell Scheer, and Brian Craft.

For those not attired in armor, the now traditional Body Looting contest was scarcely less energetic—and considerably more hysterical—than the fighting as half a dozen men and one female fighter volunteered to “play dead” and be stripped of their armor by individuals and teams. A consortium of Middle Eastern ladies known as the “Caravan” were judged by Treasurer Joe Beckenbach to have won the timed contest, having acquired the most breast-plates, greaves, helmets, and items of clothing—not to mention protective cups! Several gentlemen lost more

than their shirts on this field. Other competitions included “Tudor frisbee” and juggling vied with Maypole dancing and the construction of ceramic banquet plates in entertaining the non-fighters present.

When Fillmore Love, herald for the occasion, announced the results of the day, the company trooped off to Dabney Hall for a potluck banquet and revel. Those present burned off their dinner calories by dancing such items as the “Caidan Measure,” “Officials’ Bransle,” “Jenny Pluck Pears,” and “Nonesuch.” They caught their breath by listening to madrigals sung by the Occasional Consort whose members include Carol Polansky, Mike Pattersen, Joe Beckenbach, and Lynne McGrath. Lynne also won Mike’s competition for the “Most Obscene Use of Musical Terms” by singing “Tis But a Wanton Trick” with Sean Johnston’s recorder accompaniment. The prize for the latter was a recording of “Carmina Burana”; second place winner Janice Beckenbach was awarded shoelaces adorned with musical notation. Leif Bennett upheld the Institute’s reputation for wit by uttering the groaner of the evening. He described the amorous lady in please see MAY DAY, page 10



Photo courtesy Island Records

Passion Fodder will play at the John Anson Ford Theater Tonight at Eight along with Peter Murphy.

Passion Fodder Plays LA

by Andrew Hsu

Although renowned for their clothing designers and culture, the French simply haven't been on top of the music scene. Let's face it, when was the last time you listened to a french band (no fair starting now!) But out of the black hole of the french music scene comes **Passion Fodder**. Not just your usual french band - the lead singer is actually an American from Spokane Washington living in Paris - Passion Fodder plays music that sounds more like an American band than any french band.

This quintet, formed in October 1984 features Pascal Humbert on bass, Lionel Dollet on guitar, Benedicte Villian on violin, and Nicolas Magat on drums. The

band's leader and founder, Theo Hakola, does the vocals and plays the guitar also. Although they released two recordings in Europe, *Fat Tuesday*, released domestically on Island, is their first album released in the United States.

One first notices a rather distinctive painting on the cover of *Fat Tuesday* by Ricardo Mosner. According to Theo, the band handles all of its artwork rather than the record company giving the band almost complete artistic independence from the label. Fortunately, the eleven songs on this American debut prove to be as distinctive and refreshing as the cover art would suggest.

The first thing that caught my attention as I listened to the opening track “Luz Blanca,” was Theo

Hakola's voice. While his speaking voice sounds more like a french person speaking English with a slight british accent, Theo's singing voice reminds me of Stan Ridgway (formerly of Wall of Voodoo). Hakola also displays a fine mastery of the Spanish language on “Luz Blanca,” making it hard to believe that he actually grew up in the U.S. The listener is also introduced to a ringing guitar sound on this track which is reminiscent of many early American garage bands. The violinist, Benedicte Villian, plays a surprisingly important role in creating the band's sound on this and all the other tracks.

But the music comprises only half of Passion Fodder's forte. Equally prominent in the songs are Theo's compelling lyrics. Although not overtly political, the lyrics do reflect Theo's travels across the U.S. and Europe where he worked as a club DJ, lecturer on the Spanish Civil War, and political activist against U.S. policy towards Spain. During a recent phone interview, Theo admitted that the lyrics on *Fat Tuesday* were politically influenced although they tended to deal more with philosophical questions such as love and hate more than being directly political.

Besides the opening track on side one, other interesting songs worth mentioning were “Heart Hunters,” which is a song about love in the rhythm of a Spanish Habenera, and “Mardi Gras” which features yet another fascinating violin solo by Benedicte.

The second side of the album is equally as impressive. “In the Echo” has a country-western feel with Theo doing his best imitation of Hank Williams Jr., “In the Moodswing” has some rather interesting instrumental work in it and the album closes with “As you dig your Hole,” a rather sappy cowboy ballad-type song.

As *New Music Express* said, “their music really belongs to the American line of raw-boned low-life pop that starts with the Velvets...” After listening to *Fat Tuesday*, this comparison seems quite justified although Passion Fodder are definitely quite unique in their own right.

Passion Fodder will be playing two concerts in Los Angeles along with Peter Murphy (of Bauhaus fame).

Guns :Live Theater

by Brad Scott

Soldiers Without Guns marks the playwrighting debut of local actress Debra Jo Thornton. It is a poignant comedy bordering on drama concerning the role of women in World War II. The play revolves around the lives of five women living in Chatanooga, Tennessee. The playwright uses caricatures to reflect the prejudices and traumas which the various segments of the civilian population had to face. Thus, the five women include an uneducated black, an immigrant German, a Jew, the wife of an enlisted man, and the wife of a man declared physically unfit for service.

The play itself is a pleasant alternative to the standard entertainment fare. *Soldiers Without Guns* is an Equity Waiver production which means that the producers are allowed to cut corners financially. For this reason, the sets

are modest, the theater small, and the prices reasonable. The play therefore provides those familiar with drama an opportunity to see a very intimate production while offering those uninitiated a nice introduction to live theater.

Although the play sometimes loses itself in cliches and predictability, it is for the most part very enjoyable. The acting in general was very good with a particularly charming performance by Myria Moore as Nettie the black woman who faced the subtle but prevalent racial prejudices of the time.

Soldiers Without Guns continues indefinitely Thursdays through Sundays at 8pm with an additional Saturday performance at 5pm. Ticket prices are \$12 for Friday and Saturday evening and \$10 for all the other performances. Stage Lee Strasberg is located at 7936 Santa Monica Boulevard in Hollywood. For further information call (213) 466-1767.

Debra Jo Thornton reunites with Jeffery Latimer in *Soldiers Without Guns*.

Photo courtesy Stage Lee Strasberg

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The Inside World

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

Fleming: Pierce Wetter
 Lloyd: Dave Peterson, Kurt Storm
 Ricketts: Su-Lin Wu
 Ruddock: Betsy Andrews, Munir Bhatti, et. al.
 Edited by Dave Long

Fleming: Hey! Maybe this inside world might actually get in the Tech. Wouldn't that be AMAZING!

Just because there are women in Ricketts House, who are stupid enough to take me seriously (hell, I don't take myself seriously, why should they?), but what do you expect from scurve women? Here's another Top Ten List.

Top Ten Reasons why Women are Superior to Men

10. Women don't have to worry about running down to the Health Center in the middle of the night to get condoms ("But this IS an emergency! She might LEAVE!")
9. Women can cross their legs.
8. Women can wear skirts that aren't plaid.
7. Women don't have hairy backs.
6. Women don't break windows when they belch.
5. Women don't "pitch tents" in the middle of skin flicks.
4. Women know how to get guys alone in faraway places (DON'T they, Mr. Koehler?)
3. Women don't have to listen (not just read in the Inside World) to Pierce bitch about how long it's been since he's had any.
2. Women get to leave sinking ships first.
1. Women don't scratch their genitals in public.

Well, I'm back from Washinton. Did you miss me?

By the way, Melinda, as part of her continuing plan to imitate Linda, has dyed her hair. (or un-dyed it as the case may be) Zanelli's lucky he's not still around. Come to think of it, so is Melinda.

Well last weekend was Fleming and Friends. Unfortunately, nearly a thousand Friends showed up so we had to move the barbeque over to Beckman to seat them all. Good Planning by the Social Team! Next time, reserve the row at the Monsters of Rock Concert weeks in advance, not the day before.

This weekend is Casino Night, so everyone come and lose their money to Fleming House so we can throw more parties. Just so Linda doesn't think I've given up making sexist comments (after all what would I write the Inside World about if I didn't have sexist comments?) He are a few definitions for your dictionary:

Bimbo: Women on TV who don't have any actual lines, they just stand there and look pretty.

Example: See any Diet Soft Drink commercial.

Wench: A Bimbo with lines. Example: Soo.

Babe: Wench who can act.

Goddess: Awesome babe.

Fleming Women: Awesome Goddesses. Except for...Well, maybe I better leave these out.

Lloyd: The stars and planets were finally in the correct alignment this weekend for the upperclassmen of Lloyd to finally welcome the new freshmen into their unholy brotherhood. The freshmen suspected something was strange when they arrived at the beach and saw Phil Lee slicing open the stomach of a goat with a dagger in an attempt to foretell the future by examining the entrails. The frosh huddled together in fear as Phil uttered "SANGRIUS, MORTUS, BONUS!" and caused the upperclassmen to begin dancing around in a frenzy of bloodlust and Satanic glee. After a filling meal of goat's flesh and 7UP Gold, the upperclassmen left to prepare the altar for the night's activities. When the last rays of the blood-red sun disappeared from the beach, "Killer" led the unbelieving freshmen towards the circle of chanting upperclassmen. Seeing the unclad virgin bound to the altar there, a demonic smile crossed his sunburnt face. With a downward stroke of inhuman speed, he thrust his cursed blade deep into her still-beating heart. Each frosh was then required to scrawl his or her name in the warm, flowing blood as it ran down the sides of the infernal altar.

Other Bonus News

-Rumors have been going around the house lately concerning what promises to be the most dangerous stack in the history of Lloyd House: Lev's "Death by Uzi" Stack. He predicts that the bullet-riddled carcasses of unwary stack-breakers will cover the floors of Inferno and Tropically.

-Last Thursday night our own Jack Prater was critically injured during the Lloyd-Ruddock Frosh Shower War by a Size 13 sneaker to the groin. He seems unaffected, except for his sudden disinterest in touching members of the opposite sex.

-The president's latest hobby, deep sea diving, got out of hand last weekend as he hurled his body into the ocean twice despite the sub-freezing temperatures and bone-numbing wind. The freshman class tried to stop their zealous leader from going in, but they were left holding his jacket and shoes as he dove gracefully into the icy-blue water.

-D.E.F. & STORM

Ricketts: Hi there! Yes, yes, I know, there wasn't an Inside World last week. It wasn't my fault! Eric Candell, and John Hoskins were going to write a fantastic Inside World complete with all the fencing, fighting, chases, escapes, and silly accents you'd expect. It was going to be spectacular!

But as they started to work on it, a freak wormhole opened in the bathroom of 16A and sucked them into the toilet. Its true! They told me themselves. They were buffeted by the turbulent waters and just as they were thanking themselves for remembering to flush every time, they were dumped unceremoniously in the sewer. A dimensional gate opened up next to them and a robot arm grabbed them and pulled them through. They were laid, coughing and spitting sewage at the feet of a beautiful princess.

John said, "Oh cool! Now we get to do a great deed for the beautiful princess and then she marries us!"

But the princess said, "No, no, no, that only works in fairy tales. I'm marrying Dan Raguin, see?" And she showed them the wonderful ring on her finger. "But you still have to perform a great deed for me."

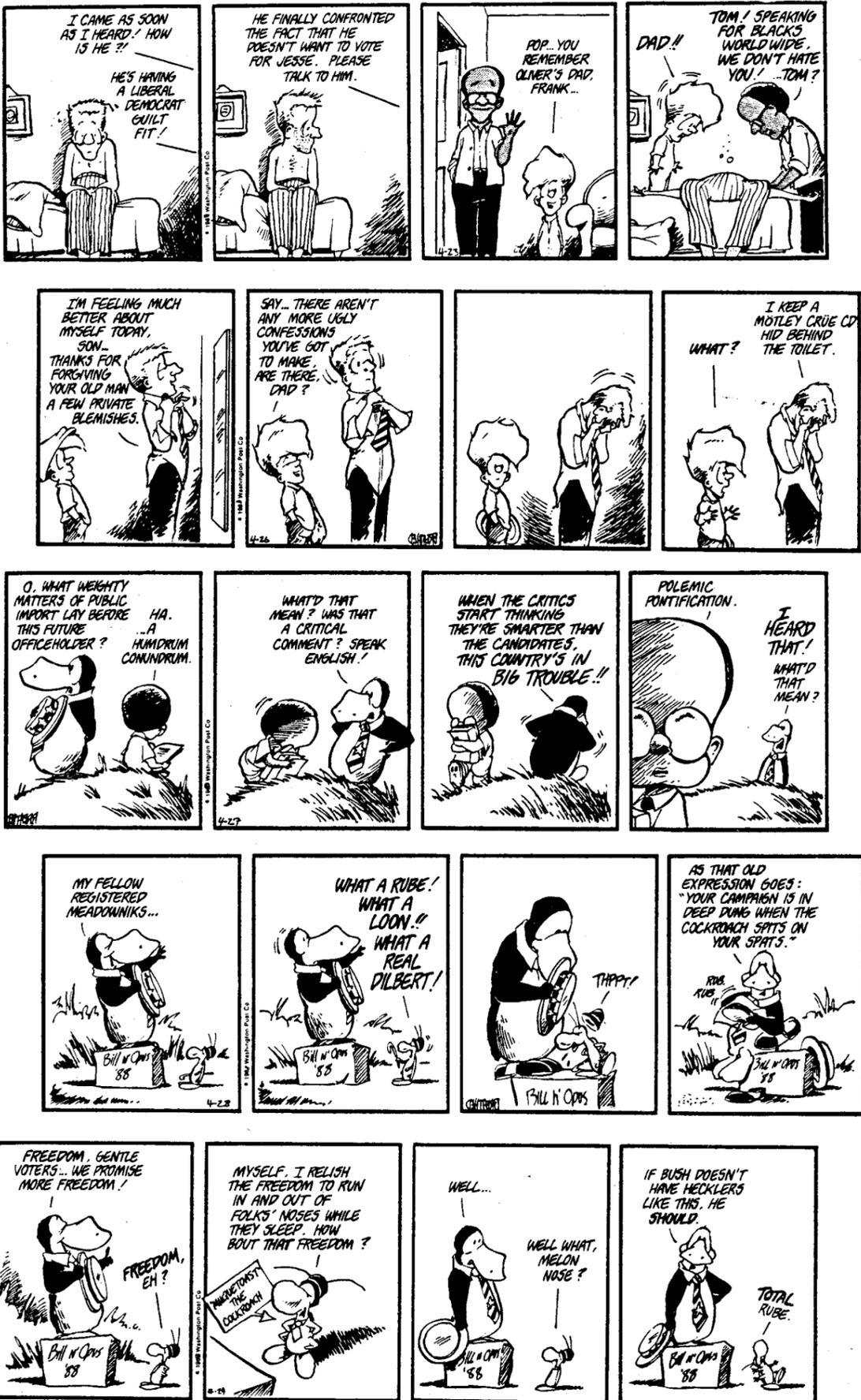
"Says who?" said our intrepid duo.

"Says me." With that the princess leaped off her throne and twisted both John and Eric's hands behind their backs.

continued on page 5

BLOOM COUNTY

by Berke Breathed



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from page 4 **More Inside World**

"Ow! Okay, okay you win. What do we do?"
 "Find out when Ditch Day is."
 So Eric and John were stuffed in a urinal and emerged in Ricketts again. But they knew that unless they accomplished their task the princess would get them, somehow. So they investigated. And they found much evidence that seemed to point to Friday, May 6. Elated, they reported to the princess. But lo! it was not Ditch Day, it was a fake Ditch Day! And John and Eric were ashamed. They had been tricked! At least they hadn't called home because of it. But the princess was not pleased. She laid upon them a great task.

"Go through every alley of each of the seven houses singing obnoxious songs. You may take companions with you to aid you in your task."

So John and Eric went forth singing with their loyal companions. They trekked through Heaven and Hell, through the lands of green and red, through the lands of Trojans and flame. Through the lands of pageness, they were beset by mustard and catsup and were hauled away to the torture chambers where some of their companions fell by the wayside. They endured all.

The princess found their deed to be to her liking. "I shall reward you for your effort. I shall send to you have fun at Capra!" And the royal toilet whisked them away to fun and excitement. Unfortunately, when they got back, it was too late to write the Inside World.

Anyway, Eric and John had so much fun they decided to do everything they could to get that room again next year so they could have parties. So they used the bathtub drain and its time hiccupping properties to go back in time and arrange to be on the social team for the half pick. They even made it appear as if they had been working on this Saturday's BDR party for the past week. What minds! Room pick for everyone else began Thursday. In a surprise move, Jerry and Suzette picked the Prexy double for next year. Other interesting results- Samer and his nose are doubling in 17; Sean, jealous of Eric's and John's adventures, picked one of the Snatch bathrooms; and Carlos and Kitt decided to double in Crud. And by popular vote, I get the pot.

Ruddock: —signing off!
 Dear Mr. Frink, Pip-Squeek

When is Ditch Day? Every night at dinner the seniors promise that it's tomorrow so I go to bed early and wake up at 8 AM, but the only thing happening is Wayne going to Chem lab. I'm so confused that I'm getting way behind in my studying and accidentally called my HP-15C "Mom". Could you help me?

— a Frosh

Dear Frosh,
 Boy are you stupid. No one falls for the old Ditch Day trick anymore! Ditch Day is a hoax perpetrated by the institute to persuade the outside world that Tech is fun. Of course it usually backfires since the media always runs "Revenge of the Nerds" stories and makes public mockery of us.

Since you're already behind doing your homework, I suggest not doing your work and spending each day at the beach instead. When the Seniors show up at the beach, buy a newspaper. If the day on the front page isn't Saturday or Sunday, it's Senior Ditch Day.

— Frink Zappa

Yo Frink-Head!
 I'm an off-campus Senior from Ruddock. I think Ruddock is just way too severe now. It was a much mellower place when I was a frosh. I think that you should write an inside world just saying nice things about everybody. You could go around the house and get everyone to say something nice about someone they don't like.

— Rosie's Main Man

Dear Man,
 Get with the times. No one has time to drive around naked in pastel-colored VW's trailing a cloud of marijuana-induced happiness anymore. Acid is the main drug now. Why, just last week we sold \$20 to Page with observable effects.

Besides, what you're saying is totally ridiculous. If you keep this up, you're going to have a head-on collision with reality. I mean try being nice to people on the streets in Lebanon. For an example of how the world really works, I suggest that you go see Fatal Attraction or Scarface.

— Frink Zappa

Top Ten Sayings O' the Week

10. Seniors are little pieces of poop.
9. Seniors are wus.
8. Seniors suck.
7. An HJ for just \$1.99, for a guy like me that's mighty fine.
6. Seniors can't even fill up the fridge.
5. ATH DAY
4. The seniors do make a guest appearance in Attack of the Killer Bimbo's.
2. Put a 12oz. PIG in your hand — like Duppy.

ATTENTION Parents of David Proctor:

Duppy means David Proctor.

1. The seniors asked Bibi out on a date, but she said no.

All material appearing in this inside world is the sole responsibility of Betsy Andrews. If you have any questions or complaints, she will be more than happy to talk to you. Coming next week - the true identity of FRINK ZAPPA — REVEALED

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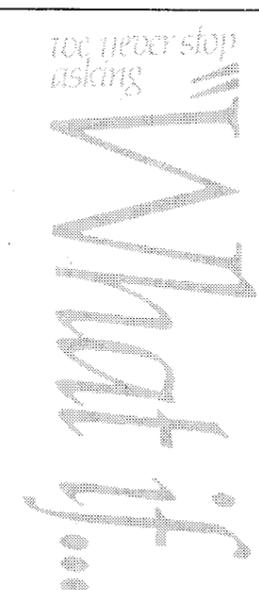
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Have you shot a photo of the Caltech campus that you especially like? Well, here's your chance to see it in print. Work is now being started on the 1989 Caltech Calendar, which will contain 13 color photos of the campus taken by the Caltech community. You're invited to submit your favorite 35mm color slide or color photo to **Dlorah Goforth, Graphic Arts Facilities, Mail Code 17-6, Extension 6705, by June 1.** Winners will receive a free calendar and \$25!

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DITCH DAY

by Dave Carta

If you missed it yesterday, you will have to wait until next year for Ditch Day to again be tomorrow. Seniors, each using their own combination of ingenuity and creativity, set up stacks, designed to test the rest of the student body. Unknown, until eight o'clock in the morning of the day itself, Ditch Day keeps students on their toes waiting for it.

Seniors again were able to make the Freshmen, Sophomores, and Juniors do their bidding as their stacks were revealed in envelopes pinned to the sheets which have been concealing the seniors doors for the past few weeks.

As all classes are cancelled on Ditch Day, students have from eight o'clock until five o'clock to work on the stacks. Students attempt to solve puzzles, chase down clues, and complete miscellaneous tasks, in an effort to break into the senior's rooms. The stacks consist of any of three basic styles: the honor stack, the finesse stack, and the brute force stack.

The honor stack deals essentially with binding the participants to follow the rules as described in the stack, by adhering to the honor code. In the honor stack, there generally are easier ways of gaining entry into the senior's room, but they should not be used.

The finesse stack specifically

involves the participants, forcing them to use their minds, knowledge and specialized skills in an attempt to complete or solve a puzzle.

The brute force stack is exactly what it sounds like. All means and methods used to break into senior rooms are valid and are generally used. Stacks often involve a combination of any or all of the three basic styles.

Again this year Caltech's Senior Ditch Day attracted a great number of alumni, who came to see both the stacks left behind by the seniors and the methods the underclassmen used to deal with these stacks.

The media also visited Caltech in great numbers, coordinated by Ditch Day Central at Winnett Center organized by Public Relations. Ditch Day is a major source of publicity for the Caltech student body.

After completion of a task, the group of students who worked on that particular stack are allowed to enter the senior's room. Inside, left by the senior, are bribes. These bribes generally consist of mass amounts of food, drinks, and/or sweets intended for those who found the solution. However, if the people who worked on the stack found the bribe to be inadequate, the underclassmen have the option to counterstack the senior's room. In this case the seniors are obliged to follow the same rules and guidelines which are set on their stacks to re-enter their rooms.



Photo by Teresa Griffie

FLEMING

Tiny Space Aliens Told Me When Ditch Day Was! Yes, it's true--I was sitting in my room when a thimble-sized flying saucer flew right up to my ear and a voice said, "Ditch Day is Tomorrow." Well, not exactly, but the seniors managed not to fool anyone, and the entire house turned out in force to chase away the cowardly seniors at the appointed hour.

The day began with a scene right out of Lit 170 as the house officers (or "Phynancial Horses") bore Paul Brewer on their backs to Lacy Park as he munched on his "Phynancial Drumstick."

The "Who Killed Brain Damage?" stack was the most popular one in the house--for obvious reasons (too bad it wasn't for real, eh?). See if you can guess who it was:

- A) Sue Danek
- B) Konstantin Othmer
- C) Benite the Geek
- D) Brian Colder

That's right! Danek did it! She was rewarded with a bottle of champagne and the heartfelt thanks of a grateful nation. Other events from the Stack That Ate Bill Swanson's Nail Clippers include the Incredible Sky-Clue, Diving for Clues, Crawling for Clues, and T-shirts emblazoned with "Daniels is not a fag... but I wish he was[sic]."--a sentiment shared by every woman ever to have met Mr. Daniels. And did you know that Jack Nicholson is more likely to act in a movie filmed at the Ath than watch a Laker game in the Coffeehouse?

The Catanzaro-Phillips-etc. Hell-Blimp Stack proved to be a true challenge, with rockets, a

blind maze and numbers on Jorgensen. What made it really tricky, though, was that Catanzaro seemed to be under the impression that it was STANFORD Ditch Day, and left most of his clues there.

Fortunately, we had operatives in Palo Alto to help us navigate the radio-controlled nitro-burning funnycar through the incredibly twisted Maze of Death. If only we had had a pair of X-ray binoculars that could see through trees for the last clue.

The triple-M stack had its moments, as it provided Burleigh with yet another excuse to go try to pick up little girls. Cruising for 12-year old babes at Poly wearing a trench coat and little else, our fearless leader soon worked up his courage to try the girls at the high school, only to be crushed by gales of laughter whenever the jacket flaps flew open. Not to insult your manhood or anything, Jim, but those girls were very amused at the what was under the coat, and I don't think it was the nevus that was so funny.

The Bill and Lynn's Farewell to Fleming Stack proved to be scads of fun for all involved as the giant crossword slowly filled up. The balloons on the cannon were a nice touch. And when was it you were going to graduate, Bill? Your advisor mumbled something about "Hell freezing over" after the question was screamed into his ear for the fifteenth time. Oh, and I believe Fleming House has to unanimously approve your dissertation now before you get your PhD. And Sue Berkley really liked the flowers.

Busacker, Burch, and Glenn Lewis had people poring over satellite photos to find fragments of

crosswords and clues. They were ultimately successful after a hard day of searching, measuring, and blind guesswork. Funny how hard it is to find the Fleming lounge on a picture taken from 400 miles up... Oh well, at least it was good preparation for Ph7, eh, Kister?

Rob Williamson and his courageous band of frosh stack-breakers bravely sallied forth through the steam tunnels in search of Seth's five (or was it one) clue(s). While failing to find it (them), they DID manage to find clues from every other stack on campus. Translating the typed instructions from Norwegian to English proved to be a challenge, as did translating the written instructions from English to English. After a confused under- and above-ground odyssey in search of envelopes, tape recorders, and dead Darbs, they found themselves in the Alley 2 kitchen, faced with mortal peril from vicious man-eating pumpkin pies.

The pies were promptly devoured in self-defense.

Prize for Best Bribe goes to Gino, whose indescribably scrupulous ransom included countless incomparable baked confections, and a well-appreciated pile o' ice cream (such heavenly brownies this reporter has not tasted in a long time--of course, in comparison with BC's famed "brownies with butt-nutts" or Pierce's Microwave Brownies of the Damned, this is unsurprising). Congratulations to all who valiantly tried to absorb enough culture down at the Huntington to find the answers. ("William WHO? I thought Bard moved to Blacker...").

In other happenings, Flermerise on the Olive Walk was a smash hit. Few exercise programs are as invigorating as trying to follow along with a platoon of Marines on fast-forward. Ditch Day closed with the traditional cannon firing--marred by the traditional Ditch Day Cannon Curse. The cannon simply refused to work until fed custom-made cannon fodder graciously donated by Brian Daniels specially for the occasion. The cannon then graciously donated said fodder to Lloyd House. A big thank-you goes out to Chris Habecker for putting out all the fires started by the cannon's generosity.

Well, that about wraps it up for Ditch Day this year. I can only say that next year's frosh are DOOMED. By the way, Pierce says Ditch Day is Monday, so be sure to go to bed early on Sunday...

Your faithful Fleming correspondent,



Photo by Teresa Griffie

BLACKER

Seven fifteen A.M., My alarm screams me awake. By an act of supreme willpower I restrain myself from reducing it to its component pieces and fall into the shower. Next thing I know I come to drinking a coke in the lounge while Ben reads everyone the "best" tidbits from Penthouse. Determined to recover my lost hours (and because of a promise to the EDITOR) I set out to research what had occurred on this Ditch day....

Andy Odea's stack began with Debbie Gibson played at Maxi-Overload - then his speakers blew. Most of the stack was disabled by Andy's failure to turn it on. The diligent stackees completed the "Triple Challenge"; Coke, Pepsi, and RC taste test (RC won) in spite of adversity, and thus broke the stack.

On a similar note of senior competence, Scott McCauley failed to provide a working motorcycle for his "Tomb Of ffl0" stack. Fortunately we were able to substitute my breath for the exhaust of the motorcycle and save the day. Using clues gleaned from around campus and Scott's talking box we were able to file a key and break the stack.

Ed Vail among others, was subjected to Curtis's toxic "digestive system" stack. The victims of this stack were forced to explore the bowels of "Curtie" searching for clues. Meanwhile Glenn and other frosh were humiliating themselves to break James Daniel's stack by attempting to play heavy metal music in front of Winnett.

James Okamoto, Francis Ho, and Bill Breazeal built this year's obligatory laser stack. To break the stack, mirrors mounted to dowels at various angles, had to be found. When these were put in the path of the laser, letters mounted on the ceiling were illuminated, giving clues. The bribe consisted of wine coolers and beer, a fine reward for the non-drinking stackees.

When asked about Sue Ridgway's stack participants mumbled, "Uh...books....world crime league...kill Sue's brother..." While those working on Mike Pravica's stack said "...how to survive Caltech...beach trip..." Draw your own conclusions.

No I didn't forget Andy Miller's stack (Though I may have forgotten others) I just heard nothing about it.



Photo by Alex Athanasopoulos

YESTERDAY

LLOYD

As a frosh in Lloyd, I went to sleep early Wednesday because I was sure for the fourth time that the next morning would be Ditch Day. Pope was nice enough to get me up early so that I could enjoy a full day of fun, and soon I was deep into the swing of things.

I started off with Keith's stack, as 007 hunting down the evil Kankus who had wasted on 004-006. I had good filmic evidence of these heinous crimes and was determined to bust into Kankus' evil hideout. I spent a while on this elaborate stack but thought I would let others share the fun.

Over at James stack, I found a frantic group seeking a diffuser for a bomb set to detonate at five. The entire campus would be leveled, but what I do for the next three years? So, I joined in and lent a hand searching the campus. Disaster was narrowly avoided by cutting the striped wire, not the stripped one.

At Ken and Doug's stack, I found a bunch of really keen things

to do. Tara got a good scare when the cloudburst erupted, and random pedestrians got a good scare when the javelin plummeted from the roof of Millikan. About 10 man-hours were spent atop of Guggenheim, but, alas, the clue was found...

Nearby, my help was recruited to break a drug dealing operation designed by a Russian immigrant and his seemingly upstanding ROTC cohort. Although the effort was enjoyed, we realize the nation's need to develop a comprehensive drug control program. We think these dealers are still in business.

Brand name quality stack at half the price! I found a mob trying to get into the Pope's room. It must have been for the generous bribe visible through the door. Generally considered "a tough stack", underclassmen still entered with enough time to help John prepare for the end of his housing contract.

Down the hall, I found a real Bonus. Rob and Chris had locked their door too! The contraption

impeding our entrance (and their egress) was a wicked looking box with about 30 buttons, 10 switches and two knobs. A challenging puzzle, indeed. We got our exercise, though, and brushed up on those lateral-over-Del Mar skills as a... treat that is extra to normal rewards.

Terrence is from Hawaii. I discovered this when I happened by to lend a hand on his stack. Braun is a very large building. This was discovered in the same way. Although the mysterious piece 15 eluded us a while we finally cracked the stack and rejoiced.

Leslie, Bill and Ross also stacked and although Bar Code had me going, nothing beat Leslie's dear old grandmothers side-splitting humor. No jelly bellies or other vises for Leslie's bribe. We found a chest of toys we are sure to cherish.

Wow! What a day. Some juniors said it might have been the best they had even seen. All I know is that I like it.

PAGE

Seven o'clock in the morning found a small cluster of frosh and assorted others clustered the old KKAL room as Tim Cotter, Konstantin Othmer, James Hammond and Joe Williams wired together their "Poker MacDitch" stack out of a Macintosh II, two speakers, and some other assorted stereo equipment. Meanwhile, concealed behind the curtain separating the Page dining hall from the lounge Chuck Neugebauer and David Gates did the final adjustments on their Ditch Day stack, as yet unrevealed to the population in general.

In front of the upstairs social team closet was a large assortment of board games, two TV's, a VCR, a ghetto blaster, a Nintendo video game and two tables covered with a mysterious diagram of some sort, all apparently placed there during the night by Doug Roberts, Eric Scharin, Jeff Tekanic, and Van Eric Stein. Michael Keating had a number of envelopes and an undeveloped roll of film taped to his door. In front of Chris Hassler's room were envelopes and four bottles labeled "Australian Table Wine."

Ken Lin had put out large manila envelopes which indicated that they were not supposed to be opened until an appropriate time, as well as a sign which proclaimed this stack to be "Raiders of the Lost Key." Robert Jensen dumped a few large cardboard boxes, some filled with overflowing with bananas, for his "Fruit of the Month" stack. You can guess what the fruit of the month was. The door to room 201 displayed a few clues and the words "The Streets of LA by Robert Young and Demitrios Missios" scribbled on a sheet of notebook paper.

At about seven fifty-eight AM a digitized version of The Ride issues forth from the speakers on the computer poker stack. A few underclassmen sit down at the keyboard to begin entering their names as participants in the stack. They then start to encourage passers-by to join them. The computer adds ten dollars to the human player's stake for each Page underclassman who logs in. The stackbreakers begin with \$99. Their six computer opponents start with \$99999. Of course, the objective is to win all the money on the "table."

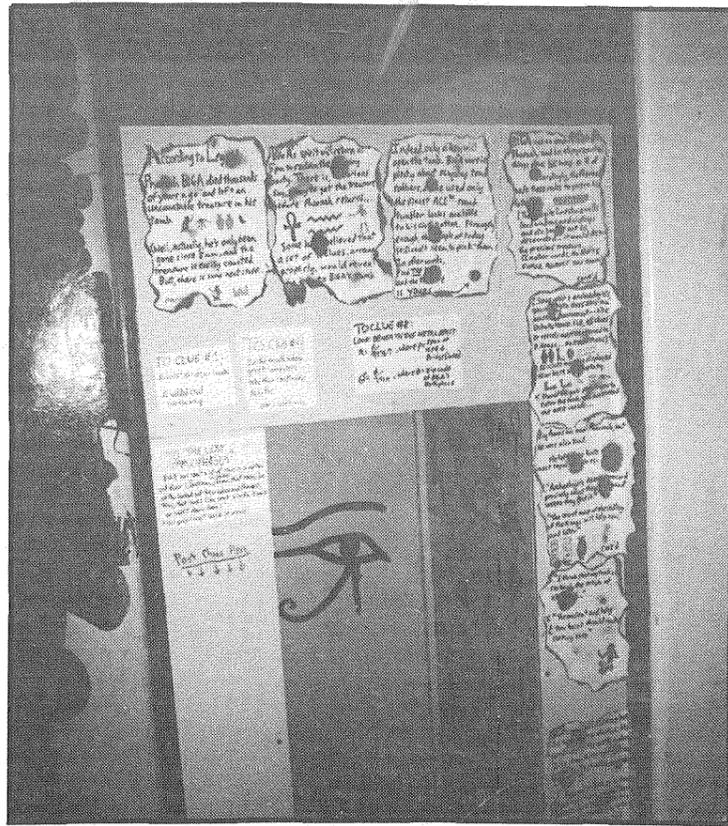


Photo by Pat Huber

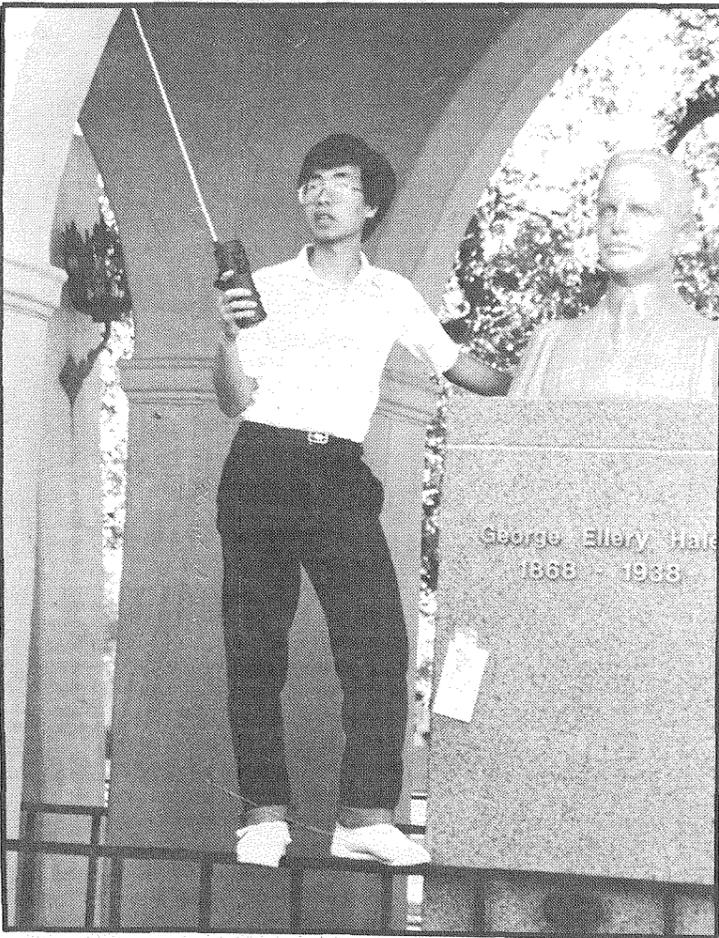


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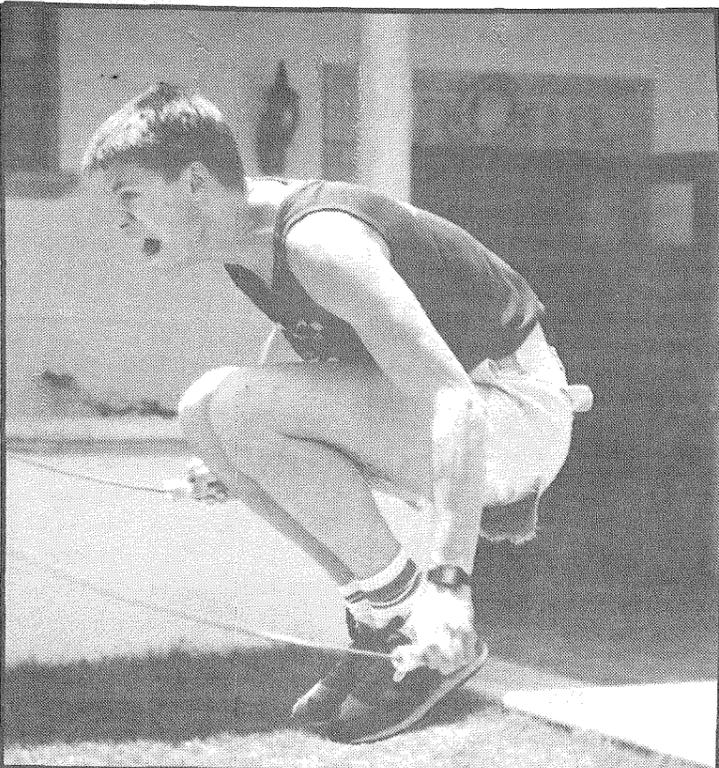


Photo by Alex Athanasopoulos

At ten past eight three frosh grab an envelope off Robert Young's door and disappear from sight. "King Arthur" and four of "his Knights" go clattering off in search of "The French Castle" as part of Chris Hassler's "Monty Python's Flying Stack." A video is playing by the social team closet wherein three of the perpetrators clarify some of the more subtle nuances of their stack, entitled "A Day in the Life of a Playmate." It turns out to be a creation of minds influenced both by Pee Wee Herman and John Belushi, coupling the simple pleasure of family board games with the more manly pursuit of Demolition Drinking.

A manhunt is on for someone who can develop the film on Keating's door. In this stack, listing Keating and David Bruning as it's major contributors (with literary advice by Ken Haynes), the idea seems to be to follow the photo-clues on the roll of film to find pieces of a puzzle which will reveal the location of the key. Various people are sprinting all over campus following the clues in Ken Lin's envelopes. When the curtain is pulled back the stack "On the Road with Chuck and Dave," a mechanical maze for a remote control 4x4, is revealed. For the "Playmate" stack several underclassmen start guzzling their way through a game of "Operation." A few house presidents are "murdered" by assailants wielding deadly fruit.

At about ten the poker players decide that ten dollars a head for each person who types in their name isn't quite enough. An expedition is formed to shower/pond/pool Warren Emery. (Look in the Tech for photos of the outcome of this.) Another group goes off to hum The Ride into the PA system at Ralph's. A few highly amusing limericks about poker are rapidly penned. Around the corner a frosh stuffs five bananas into his mouth. A few underclassmen begin to feel the effects of drinking their way through a game of "Mousetrap" after their game of "Operation."

The poker addicts add on their money for Fish getting drunk. The village idiot lays in the sun as the Inquisition pummels random people into confession. "Playmate" stackbusters play a more classic drinking game. Those working on Mike and Dave's stack abandon

their efforts after the film turns out blank.

Several have attempted the "On the Road" stack, but few have made it past the "tightrope" part, and none yet past the "earthquake." All this time there has been a steady stream of people trying to defeat the tougher Nintendo boxing opponents. A few pieces of race car track, the reward for completed games, have begun to appear. Those working on Michael's stack resume their efforts after realizing the film wasn't supposed to be blank.

Around lunchtime a few people head for the Origin of Pasadena to search for an object concealed there, to gain more money for the poker game. The unsuccessful Harvey Mudd mattress thieves return. Casualties of the "Playmate" stack start mounting.

After a serenade of the "Lumberjack Song" in front of Winnett and steady progress in the remote control stack, the first stack is broken at about four o'clock. After finding some very well hidden clues and a not-very well hidden key stack breakers walk into Ken Lin's room and begin munching on Marie Callender's pie's. "On the road with Chuck and Dave" is defeated after many vain efforts as the 4x4 rolls over "the Burger King Drive-Through Massacre" and through "Frogger's Revenge" to bump a bimbo to win the bribe. "Monty Python" was broken next after a last minute dash to Robinson to retrieve a key.

The "Playmate" players assembled a complete circuit of track and ran the little cars around it ten times to get a refrigerator full of sugared snacks and soda, as well as a canister of several atmospheres of joy. The frosh working on Robert Young's stack returned after a 1-0-0-ng drive through LA county with a fistful of clues pulled off of freeway on-ramps.

The Banana stack breakers pulled a map to the bribe out of a book entitled "The Banana Empire." Those working on the picture-puzzle stack were on the verge of completion when the stack-makers reappeared. The creators of the computer poker game sat and ate the bribe while the players continued to match their skill against the likes of "Willard" and Linus Van Pelt.

And a good time was had by all.

MORE DITCH DAY

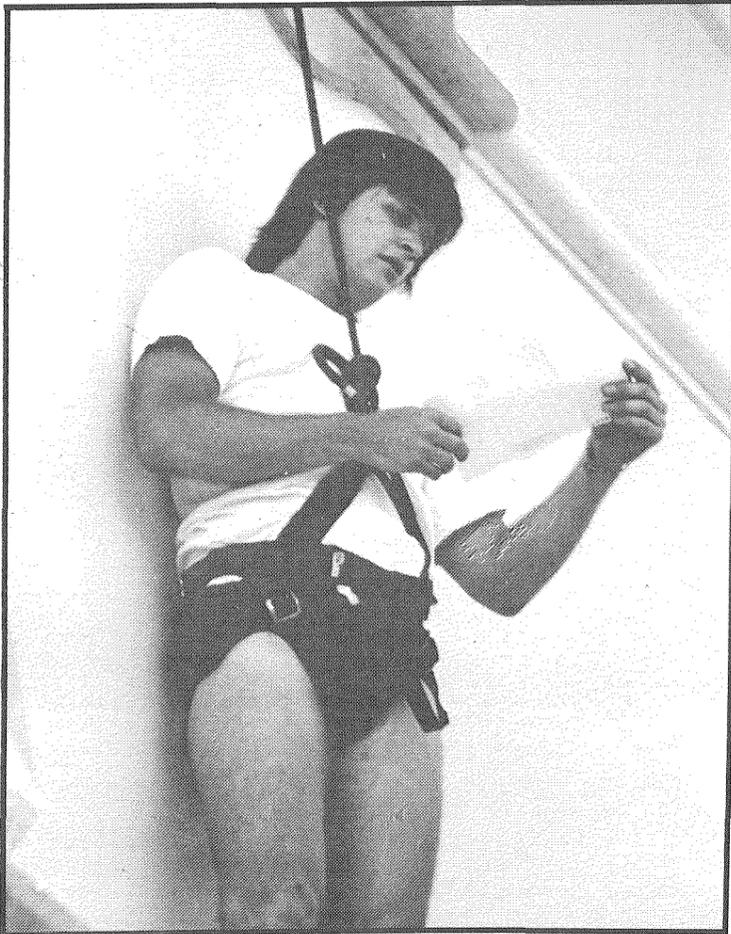


Photo by Alex Athanasopoulos



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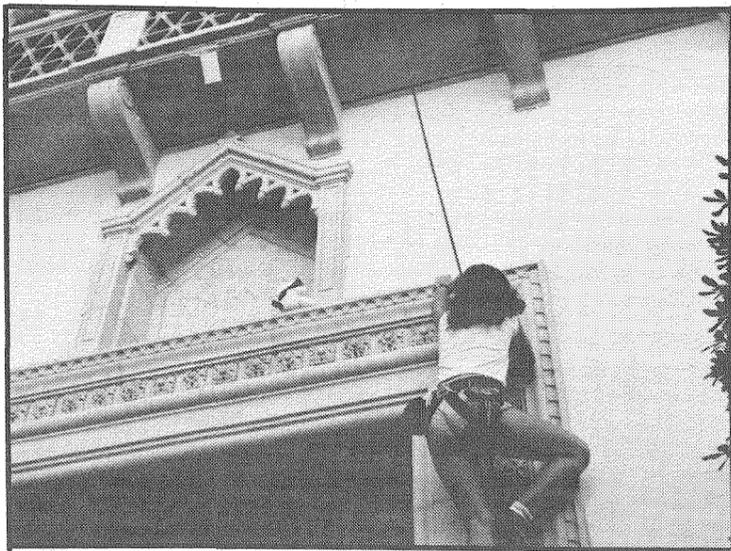


Photo by Pat Huber

RICKETTS

Howdy neighbors! Aaack Barf! Did you have fun, boys and girls? We did! As expected, Ricketts took top coverage in the local news report. Josh even took a lady reporter out for a spin in his new mobile. The climbers, with their nifty new bottle collection, decided that the Crud bathroom didn't need any of its glass windows anymore. Their climbing efforts once again showed the public just how dangerous and harmful climbing stacks actually are. Maybe next year the administration will also outlaw drinkign stacks too since Nancy Reagan says "Just Say No."

On a lighter note, the ath hole was finally taken care of. Through perserverence (8 1/2 hours) and hard work (Drew almost puked) the road crew removed the offending car. A piece at a time.

(By the way, Mark, potato chips aren't a bribe.)

(And for the other Mark, why should we say anything about you? No on else seemed to care.)

As I was sitting here, the other editor fell asleep, so I'll have to fin-

ish this Inside World for him.

The MOSH's office got a kick of the screaming hephlilumpers running through, screaming and yelling and hollering. But, the mouse didn't seem to be in trouble. So all the histrionics for nothing!

There were also a bunch of mad pirates running around campus. They seemed to all come from this hoise, riding around in a pirate ship with wheels and carrying flags.

But there is too much to talk about in this little space. It can be summed up as a fun day, all in all. Now, for last words from the other editor:

You know, I don't care who you are. I hate you. So there.

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RUDDOCK

Ditch Day came and went at Ruddock House. It wasn't much of a surprise to anyone, as Ditch Day rules had been announced the night before, and seniors were acting somewhat secretive. The alumni and students on leave that had returned also helped give away the "secret."

The day began at an early eight A.M. with breakfast (4 boxes of cereal had to be eaten...) from the xxx stack, and, of course, loud music by the Dead Milkmen from Wayne's 'Art Fags' stack.

Greg Martin's Yoyodyn stack seemed to end up confusing a lot of people. The stack essentially involved the formation of a "corporation", complete with secretaries and board meetings. It did accomplish one important thing, humiliation. Gary Lorden had to read a 'statement' of jibberish at a fake board meeting, and Colin had to sing. At the final board meeting, the "computer" made up of around 20 people following flow charts broke down, leaving the stack-breakers hanging.

Tim Ma's 'CIA' stack consisted of a number of tasks which students had to follow, including paper origamy and making layers and layers of jello.

For all those 'Art Fags', Wayne Leukens' stack gave hours of intrigue. Stackers were given photos of various artistic places on campus, where envelopes containing pieces of a Kandinsky work lay.

The picture was pieced together and found to contain a code on the reverse side. This code, broken, gave a clue as to where the room key was hidden. The key was found at the Norton Simon museum (carefully avoiding the EVIL GUARD from HELL...)

Still, the stackers were not yet done, for a number of tasks had to be completed, including Nik's streaking across the Ath lawn, Betsy and Milton's shaving cream escapade (salty??), naked ultimate frisbee, and serenading the Ath with jingle bells played on pots and pans.

Mike Warren's stack involved an adventure-type computer program based on Tech. After hours of work, the key was finally found (a few minutes before five...) The program contained many obscure "monsters"--like exams, integrals, and even several faculty members.

Jamal and Hungse's stack main-

ly consisted of a number of tasks that specific persons had to complete. Unfortunately (or perhaps fortunately...??) the stackers refused the bribe at the end, and now Alley 1 smells amazingly like steer manure (and so do Jamal's clothes...)

There were many many more stacks in Ruddock: hundreds, even thousands, so this reporter was unable to cover all of them. They included Janice Peters' computerized stack, the 'Escape from Vietnam' stack, the 'Flick' stack, and the 'Ruddlander' stack, which incidently spawned another stack--hereafter referred to as the 'fake' stack. (One of the tasks was to get interviewed for a fake stack...) All in all, everyone that participated had fun; especially after the stacks were opened and the bribes were ingested. And remember, Ditch Day is Tomorrow!

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EVEN MORE DITCHDAY

Photo by Alex Athanasopoulos

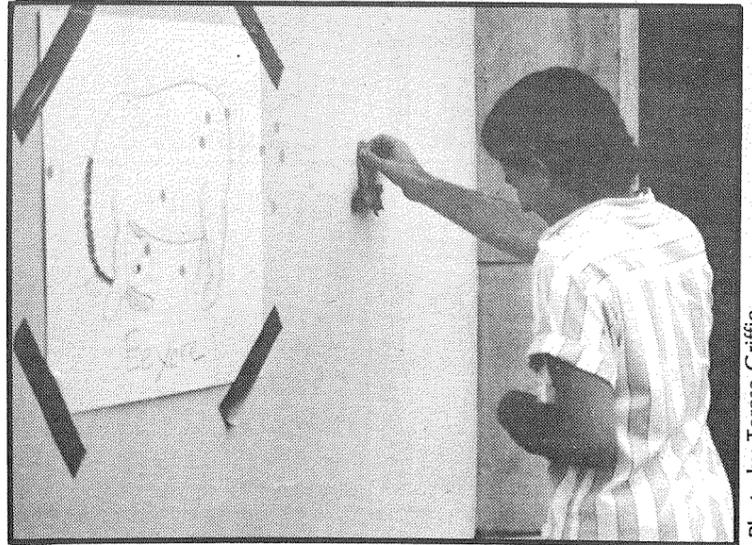


Photo by Teresa Griffie



Photo by Teresa Griffie

You're smart enough to calculate the size of a Hydrogen atom.

$$a_0 = \frac{n^2(4\pi\epsilon_0)^2}{4\pi m_e e^2} = \frac{n^2 \epsilon_0}{\pi m_e e^2}$$

$$= \frac{(6.626 \cdot 10^{-34} \text{ J} \cdot \text{s})^2 (8.35 \cdot 10^{25} \text{ m}^{-1})^2}{\pi (9.109 \cdot 10^{-31} \text{ kg}) (1.602 \cdot 10^{-19} \text{ C})^2}$$

$$= 0.529 \cdot 10^{-10} \text{ m} = 0.052917 \text{ nm}$$

And you're still smoking?

U.S. Department of Health & Human Services



Photo by Alex Athanasopoulos

BANDORAMA
is this
SATURDAY
May 14, 8:00 pm.
in Ramo Auditorium
A Free Concert with the
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Caltech Monday Jazz Band
Caltech Thursday Jazz Band
Guest and Soloist
Steve Houghton - "drummer for the Stars"
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WEEKLY SPORTS CALENDAR

| Day | Date | Time | Sport | Opponent | Location |
|---------|---------|---------|-------|-------------------------|----------------|
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| Tue/Sat | 5-25/28 | All Day | Track | NCAA Div. III Nationals | Northfield, MN |

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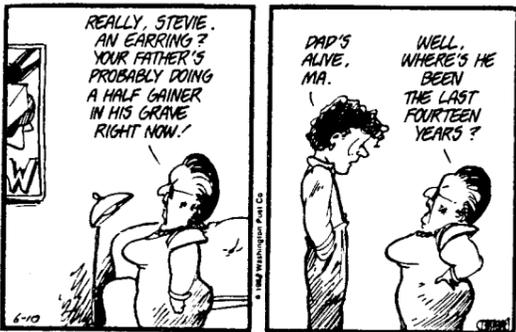
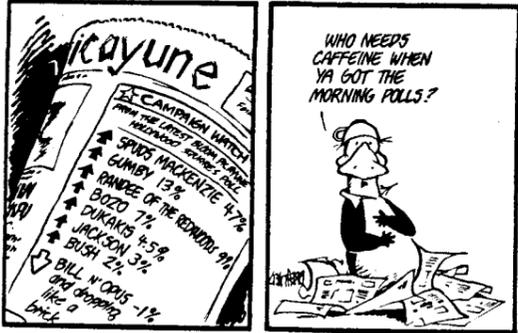
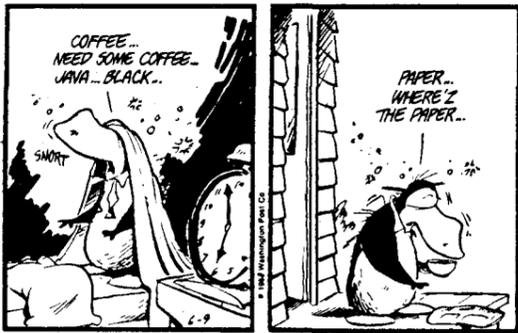
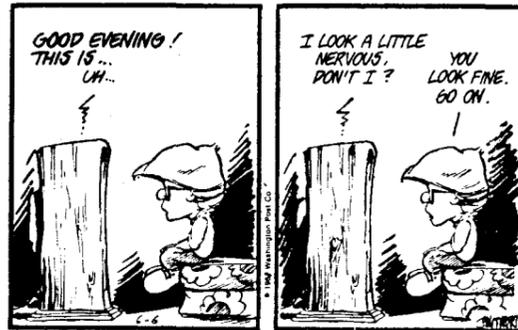
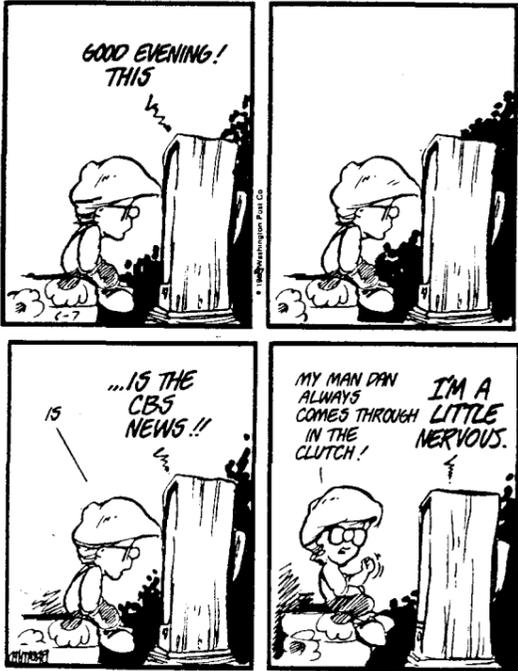
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May Day, cont.

from page 3

Lynne's song as undoubtedly being a "chorus girl, as she wasn't averse."

The evening wound down with games of "Knots" and rambunctious pursuit of "Cloved Lemon Tag" in the by now very windy Dabney Gardens. The general silliness of this enjoyable even was much enhanced by the assistance of Miguel McDonald as a field herald, Erch Schneider, and Vicki Jones who attended upon visiting Royalty, and in various other ways by Chris Bertani, Tracy DaFoe, Harold Zatz, Charles Fu, and Stephen Walton.

what goes on

Gay & Lesbian Discussion Group

The Gay and Lesbian Discussion Group meets the first and third Wednesday of each month. The next meeting will be held on Wednesday May 18 in the Group's new meeting location, Student Activity Center, room 26. Refreshments will be served. For further information please contact Bruce Kahl, ext 6393.

Creative Award

Can you think of a creative way to spend \$300? Something fun and frivolous like kayaking in the Sea of Cortez - bicycling along California's coast - learning to play a new instrument - learning a new language!? Why not submit a typed or neatly written essay of about 500 words to the *Don Shepard Essay Award* contest describing your plan. All frosh, sophomores, and juniors are encouraged to apply. Three prizes will be awarded.

Submit your essay to the MOSH office before **MAY 15**, the deadline.

Animated Finale

As its season finale, Cinematech will present *The 19th International Tournee of animation* Monday, May 23 and Wednesday, May 25 in the Baxter Lecture Hall. The *19th Tournee* is a collection of 20 award-winning animated short features (just like the Festival of Animation, except it's here and it's cheaper to get in).

Featured shorts include *Charade* (Academy Award winner), *The Big Snit* (Brad Scott's favorite), *Vincent* (a claymatron of Vincent Price), *Jumping, Anna and Bella*, and lots more. Shows will be at 9:30 and 10PM. Admissions charge is \$1.50. For more info, call James Shih, x3968.

Don Shepard Essay

Get those creative juices flowing and write an essay for the **DON SHEPARD ESSAY AWARD CONTEST** - the deadline is **MONDAY the 16th!** Open to all freshmen, sophomores, and juniors.

Northrop EE Money

The Northrop Corporation is again sponsoring a \$3,000 scholarship for sophomores in Electrical Engineering. The scholarship is awarded for the junior year, and may be renewed for the senior year. Selection will be made by a Northrop representative, and is not made on the basis of need. Details and applications are available in the Financial Aid Office. Applications are due in the Financial Aid Office by Friday, May 20. (Financial aid recipients: if you get this scholarship, you will reduce your loan/work before grant!)

Free Money

Groups and clubs may apply for funding to the Student Investment Fund. Money is for **equipment and durable goods only**. To apply, please submit a short essay (less than 200 words) by the **new deadline** of May 16. For more info contact Randy Levinson at 156-29 or x3961.

Consulting Engineers \$\$

The Consulting Engineers Association of California announces its twelfth annual competition for upper-division, undergraduate scholarships in engineering to be awarded to a limited number of students who are interested in consulting engineering as a possible career.

To be eligible, a candidate must be (1) scheduled to enter his or her third or fourth year of undergraduate study in the fall of 1988, (2) in the upper half of his or her engineering class, (3) working for a B.S. degree in engineering, (4) interested in consulting engineering as a career, and (5) a United States citizen.

For applications and more information, stop by the Career Development Center, 08 Parsons-Gates.

Altadena Book Sale

The Friends of the Altadena Library will hold the annual book sale on Saturday, May 14 from 10:00 am to 4:00 pm. The sale will be held at the Altadena Public Library, 600 E. Mariposa Street, Altadena (a short distance west of Lake Ave.).

For real bargains and best selection, join the Friends of the Altadena Library on Members' Night, Friday, May 13 from 4:00 to 8:00 pm (membership available at teh door).

Hardcover books at .50 each, paperbacks at .25, most children's books at .10 and .25, some better quality books will be slightly higher, and bargains in encyclopedias will be available. One of the last big book sales in Southern California!

Caltech Bridge Club

The Caltech Bridge Club meets every Monday at 7:00 pm in the Red Door Cafe. Players of all standards are welcome and we will provide a partner if you do not arrive with one. We play Duplicate Bridge and Master Points are awarded. There are also several tournaments a year, with extra Master Points offered. So, if you want a fun game of bridge, or just more information on the club and its activities, please come on Monday night.

Work In A Summer Camp

Apply today for summer employment at teh Woodcraft Rangers Stanley Ranch Camp. We'll pay you for the first week to learn, from professionals in camping, social work recreation and safety, how to be a great staff member! If you qualify, you'll finish the summer with your American Red Cross First Aid & Lifesaving badges. It will be easier for you to get a later job as a lifeguard, recreation worker or in any industry because you'll have the certificates to handle emergencies.

You'll learn about child development, group work techniques and initiative games from mental health professionals. Of course, you'll learn games, songs and campfire skits from recreation consultants. We'll teach you how to build children's self-esteem through successful participation in a ropes course, astronomy trail and orienteering program.

The camp is on a ranch near Magic Mountain. We can offer you a summer of meaningful employment... a job with a purpose! If you enjoy outdoor life and working with children this may be one of the most rewarding summers of your life. Employment is for ten weeks, beginning June 18 and ending August 27. There are many openings for both men and women. We provide salary, room and board, health insurance and other benefits.

Write or call for an application: Woodcraft Rangers, 2111 Park Grove Ave., Los Angeles, CA 90007, or phone (213) 749-3031. Fingerprints and references required.

BANDORAMA Approaches

The Caltech Wind Ensemble and Jazz Bands, under the direction of William Bing, will present their annual **BANDORAMA** concert on Saturday, May 14 at 8:00 pm in Ramo Auditorium. Featured artist will be the great drummer, Steve Houghton. Steve has played drums for Woody Herman, Freddie Hubbard, Doc Severinson, and on the *Tonight Show*. He is a clinician for Yamaha Drums, and has been featured in clinics and concerts all over the world!

There will also be a world premiere of a composition featuring the music of Caltech which was arranged by Raymond Burkhart.

James Blinn, a computer graphics expert who works at the Jet Propulsion Laboratory, will present a visual accompaniment to the music of *The Planets* by Gustav Holst.

The concert is free and open to the public.

Europe By Train

For a free information packet about Eurailpass and Britrailpass, or to order a pass for your traveling convenience, call toll free 1 (800) 4-EURAIL. Phone line open Mon-Fri 9am-9pm, Sat 10am-3pm PDT.

Club Should Submit Soon

The *Big T* editors would like to encourage Caltech clubs and organizations to submit a page or two of photos for the yearbook. If you are interested, please assign somebody in your organization to put together your section and direct them to the *Big T* editors as soon as possible. Mail to Caltech 27-58, or call x2183.

Now, About Those Houses...

All House sections *must* be submitted to the *Big T* by May 23. The editors would like to meet with each of the House Section Editors to make sure they understand how a layout is done and what possibilities exist for their layouts. Presidents, *please* assign somebody in your house to put together your house section and direct them to the *Big T* editors as soon as possible: Brian Catanzaro, Dave Phillips and Gino Thomas, x2183.

Hunter Rouse Fellowship

The University of Iowa College of Engineering is sponsoring the Hunter Rouse Postgraduate Fellowship in Hydraulics and Fluid Mechanics. Recipients must have earned a B.S. or M.S. by the 1988 academic year. Stop by the Career Development Center, 08 Parsons-Gates, for more information.

Enterprise Forum

The May 17 Caltech/MIT Enterprise Forum will feature Tom Roberts, Chief Executive Officer of DSP Systems Corporation. DSP, founded in 1981, is a high performance array processor manufacturer which delivers applications specific supercomputers for FFT, 1D and 2D matrices and other functions. Tom Roberts will ask the Forum about the future direction in product mix and the best way to approach corporate partnering. Attendees eat supper in Chandler from 5:00 to 6:45, and the Forum itself is at 7:00 in Baxter Hall. Contact the Industrial Relations Center, x3916, for reservations or more information.

Alaska Airlines Claims California

Alaska Airlines is offering a special discount of 35% off standard coach fares for college students from now until June 30. The special "School's Out Fares" are good systemwide on Alaska Airlines, which covers 30 cities in six Western states. The offer coincides with an advertising program "laying claim to the state of California," according to an Alaska spokesman. To get the discount, you need proof of full-time student status, and a coupon available from the airline or travel agencies.

Research Opportunities

The SURF Office has received information from the Oregon Graduate Center Summer Undergraduate Research Experience (OGC/SURE) about research opportunities in such areas as groundwater contamination, fluid dynamics, environmental chemistry, or microbiology. For further information, come to the SURF office, Room 3 Dabney Hall.

Health Brochures

Health Education Brochures are now available at the Health Center. Topics included are: depression, eating disorders, physical fitness, mononucleosis, birth control, and sexually transmitted diseases. The brochure rack is located near the reception area. There is no charge for the brochures.

Advance Your Swordplay Skills

The Caltech Medieval/Renaissance Society is holding fighting practice on Sundays at 2pm on the lawn outside Winnett Student Center. Would you like to learn the techniques of medieval armored combat? Come join us! For more information, call Leif (213) 644-7566, or Amy (818) 794-2612.

Caltech Raquetball Club

Passes for the use of the Pasadena YMCA's raquetball facilities are now available at the Caltech Y for the price of 1 dollar. They can be purchased during normal office hours and are available to any student. The passes allow full use of YMCA facilities for one day.

The YMCA is located at 235 E. Holly Ave., 1 block north of the Pasadena Plaza, next to City Hall. There will be a list of available partners posted at the Caltech Y, so if you are interested, please sign up.

If you have any helpful suggestions for the club, contact Jason Stewart at 1-59 or 356-9414.

Study At Oxford

The University of Detroit in conjunction with Oakland University is offering British Studies at Oxford. The setting for this idyllic, credit-bearing program is Corpus Christi College, Oxford.

The program offers tuition, private room, full board during the week, excursions to London, Stratford-upon-Avon, Bath, Coventry and other sites, theatre tickets, visits to world famous museums for six weeks, and six or eight credits, for \$3300, not including air fare. Students may opt for a three week, three/four credit program at \$1850. Most courses offered by Oxford tutors include Art History, Antiques, British Architecture, Business Management, History, Literature (Drama, Medieval Literature and Modern British Literature), and Political Science.

For further information write or call Dr. Edward J. Wolff, Director of Study Abroad, The University of Detroit, 4001 W. McNichols, Detroit, MI 48221. (313) 927-1082 or 652-3405.

C.L.A.G.S. Library

The CLAGS library is open for business, with everything from Plato's *Symposium* to *Sappho Was a Right-On Woman*. The library is in room 36 of the Student Activities Center. If you want a key, even just to see what a gay-oriented cartoon book looks like, contact Laura Anderson, x3956, or Nancy Matthews (student activities coordinator), Room 37 of Student Activities Center, x2935.

Friedan, cont.

from page 1

these functions were taken care of with sets of tubes and hoses. She reacted by exclaiming, "Could not a nation with the technology to put a man on the moon invent a new set of tubes to suit the female anatomy?!"

To affirm the triviality of those 20-year-old claims, Friedan noted of more modern manned space shots, "We haven't heard much about the bathroom problem."

Friedan suggested ways for both sexes to deal with the comfort level. "They (the men) gotta get over it," was the simple message she had for that gender. For women to break this barrier, she said, "All it takes is a little assertion." She prescribed this mode of action based on the fact that men's discomfort dissipates quickly once they actually start working with women; if women treat their working relations seriously, Friedan's experience has shown that men will treat them likewise.

New Attitudes

The speaker acknowledged that great advances have been made since the women's movement began over 25 years ago. She found interesting how the attitudes of modern young women take for granted the increased equality between the sexes found today. It was amusing to her that a woman could think, "I'm not a feminist, but I want to be director of the lab or president of the company."

The position of the women's movement today is not one of a victim anymore, according to Friedan. The contemporary platform is one of power. "Women are going to have continual and more bargaining power. Even in this male world, women are going to be needed," she said.

S.T.D. Hotline

The County of Los Angeles Department of Health Services announces the availability of its Sexually Transmitted Disease Hotline. The Hotline provides confidential telephone information about sexually transmitted diseases such as gonorrhea, syphilis, herpes, venereal warts, and chlamydia, to name a few. The Hotline also provides referrals to low-cost health facilities where diagnosis and treatment is available. These facilities are located throughout Los Angeles County. To speak with a Hotline "listener" call (213) 588-5221. The Hotline operates 8:00 am to 6:00 pm Monday through Thursday and 8:00 am to 5:00 pm on Friday. All calls are confidential.

Legal Internship Program

The European and Asian offices of Coudert Brothers, Attorneys at Law, have established an International Legal Internship Program, which they believe will be of interest to graduating seniors and graduate students who may want to take some time off. They have offices in Paris, Hong Kong, Singapore, Tokyo, and Sydney. The firm would like to attract talented college graduates who are considering a career in international law, but would like some overseas experience with a large international firm before making a definite decision. The Career Development Center (08 Parsons-Gates) has more information.

With this new framework, women must work to move beyond male role models and create new models suited better to women, according to the speaker. Appropriate to this point, the speaker related a fact about women engineers. It has been found, according to Friedan, that these engineers perform their tasks better in some cases because they possess communication skills superior to their male counterparts; they cooperate more. The speaker noted that their escape from the uncommunicative model the males set up for them enabled them to perform better.

Friedan also said that work and home environments need restructuring to make them more comfortable for women. She emphasized the need for recognition of women's link between work and home and the need to deal with their unique needs, especially child care.

Since women were traditionally relegated to household duties, the decision to pursue a career meant giving up the traditional role. This left a vacuum in care of the house and family, so this decision frequently entailed giving up on having children, or postponing childbirth to a more convenient time.

"Women didn't seem to have full rights to have children," Friedan elucidated. "They have to postpone because they don't have a right to maternity leave and related time off."

"The United States is the only industrialized country in the world other than South Africa that does not have a national policy on parental leaves," Friedan groused. She also pointed out that JPL has no maternity policy, but commended the lab for having a child care center. She also criticized the facility, "You have a fine child care center, but it doesn't sound like it's affordable."

The speaker felt that it was important to restructure the roles of family members to compensate for the mother's new place in society. "She has to learn to give up some of the power in the home and give up the perfectionist attitude (to housework)."

Friedan remarked on the progress in this area as well as the totality of the women's movement by telling of a headline she saw on the front page of the *New York Times*. It read, "Men Not Sharing in 50% of Household Work." The speaker was encouraged not only by the fact that this was important enough to be on the front page, but by the underlying assumption that men should be sharing half of the household work.

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what goes on

Announcements for *What Goes On* should be submitted on an announcement form available in the SAC copy/mail room (Room 37) or on a plain piece of paper. Please indicate the date(s) you want the announcement to run. Send announcements to 25-58, or put them under the door of Room 40A of the SAC. Announcements must be received by the Tuesday prior to publication.

Seniors! Feynman Gift!!

The 1988 Senior Gift Campaign is off to an excellent start. In the first week of the campaign, \$220 has been raised toward the \$1500 seed money for a memorial bust of the late Dr. Richard P. Feynman. With your contribution, we can make the Class of '88 senior gift the best ever! Also, as a new donor, your gift will be matched 2-for-1 by an anonymous alum and trustee. Please send your contribution to the Alumni Fund, 105-40, by May 31.

For more information, contact any member of the Senior Gift Committee—Chairs: Rich Arrieta and Van Eric Stein; House Representatives: Shannon Gwon, Dabney; Jason Stewart, Ricketts; Andrew O'Dea, Blacker; Adam Slovik, Fleming; Wayne Lukens, Ruddle; Eric Scharin, Page. Or call the Alumni Fund, x6286.

Gary Lorden's "Retirement" Party!

At the end of this academic year Gary Lorden will be "retiring" as Dean of Students to return to his research and teaching. To honor him for his four years of commitment to improving the quality of undergraduate life, there will be a dinner on the Olive Walk on Wednesday, May 25 from 5:30PM to 7:30PM. ALL UNDERGRADS ARE INVITED!

If you have any questions, please contact Marda or Suzette in the Deans' Office on ext. 6351.

Spring OWC Meeting

This coming Wednesday, May 19 at 12 noon in Winnett Lounge, the OWC will hold their spring general meeting. Bring your lunch—we'll bring the lemonade and cookies. Meet the nominating committee's ex-comm slate for next year, sign up for exciting activities, hear a short history of the OWC. Give your suggestions, plans, ideas for next year—everyone is welcome. See what the OWC is all about.

CLASSIFIED ADS

HELP WANTED—

MALE STUDENTS WANTED!

University students as sperm donors by California's largest sperm bank. Earn \$70-105/week. 213-553-3270 California Cryobank, Inc., 2080 Century Park East #306, Los Angeles.

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JESSE JACKSON '88 needs you to get involved with the local campaign before the June 7 election. Help Jesse win and gain political experience in this historic campaign. Call (818) 405-9135 for more information.

BABYSITTER NEEDED for 2½-year-old girl. Every Sat. from 10 to 5. Fee negotiable. Our house (East Pasadena) or yours. Call (818) 440-9974.

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LOST: GREY CROSS PEN. Contact: David Goldreich, 1-55, 577-6993.

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The Environmental Failure

The Environmental Study Group, Caltech WorldWork and the Caltech Y Speakers Fund present "The Environmental Failure—Unlearned Lessons of the Technological Age," a lecture by Dr. Barry Commoner. Dr. Commoner is the author of *The Politics of Energy*, *The Poverty of Power*, and *The Closing Circle*. He is also director of the Center for the Biology of Natural Systems, Queens College, CUNY, member of the Board of Directors of the National Parks Association, and was the 1980 Citizens Party candidate for President. The lecture will be on Monday, May 16 at 8 pm in Ramo Auditorium. Admission is free, but the Caltech Y will be handing out priority seating tickets to the Caltech community beforehand.

Science, Ethics & Public Policy

On Wednesday, May 18 at noon in the Judy Library, Baxter Hall, Prof. Michael H. Shapiro, the Dorothy Nelson Professor of Law at USC, will speak on the topic of "Biotechnology and Ideas of Human Identity and Practice: Cases of Conceptual Fragmentation." Bring your brown bag lunches if you have them.

CCSA Meeting

There is going to be a general meeting for all members of the CCSA at 4:00 pm on Saturday, May 14, in Clubroom A (SAC). We will discuss activities for International Day and pictures will be taken for the Big T. Refreshments will be served.

Coin Auction

A coin auction will highlight the May 18 meeting of the Caltech-JPL Numismatic Society. There will be many bargains among the choice numismatic material offered at the sale. Enthusiastic bidders seeking to enhance their collections will be able to consider items including old American, silver and foreign coinage.

Drawings for door prizes will be included in the activities. The club meets the third Wednesday of each month at 7:30 pm in room 168 of the Church Lab on campus. All Caltech and JPL personnel along with their families are most welcome to attend.

Y Book Exchange

Bring your used, unwanted textbooks to the Y. What we do is: we take them, display them on our bookshelves, and sell them to the 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! They Y also has ring and report binders, and novels new and old.

Cinematech

The Cinematech movie for May 14 will be Francois Truffaut's *Shoot the Piano Player*. Based on the novel *Down There*, a once-famous concert pianist tries to escape his troubled past by becoming a piano player in a small Parisian bar. His efforts to help his brothers who have become enmeshed in the violence of the underworld lead to more tragedy. Truffaut's affectionate tribute to the Hollywood crime films of the 40's stars Charles Aznavour as the shy, sensitive and vulnerable hero. Screenings will be at 7 and 9:30 pm in the Baxter Lecture Hall. Admission charge is \$1.50. For more info, call James Shih.

French Movies

The Francophile Club of Caltech has been presenting a series of French Films, admission free to the campus community, on Thursdays at 8 pm in Baxter Lecture Hall. All films have English subtitles. For information, call Josette Banroques, x3782. This week's film is: *Vagabond* a film by Agnes Varda.

German Movies

There will be a showing of *Die Erste Polka* (1978) on May 16th at 7:30 pm in Baxter Hall. The movie centers around one specific day, August 31, 1939, the day of the declaration of World War II. At Piontek's in Upper Silesia, mother Valenska barely takes note of the troops, tanks and other forebearers of imminent catastrophe. The same is true for Jasel, her 15-year old son, who like so many of his generation displays complete political awareness. Following his sister's wedding reception he kills an intoxicated soldier who attempted to rape his girlfriend. The political events run parallel and provide the background for this adolescent story, where confrontation and interrelation of everyday personal life with the world's historical events become evident. Directed by Klaus Emmerich. Starring Maria Schell Erland Josephson, Guida Wieland, and Ernst Stankowski. All are invited.

Designing A Product

Interested in how to design a product for the marketplace? Then come to Room 22 Gates on Wednesday, 18 May at 4:30 pm.

Brad Sorenson, of Sorenson Design Associates, will talk on how to do this.

The talk is free and open to the public. It is brought to you by the Caltech Y.

Go To The Mardi Gras!

Hurry to the Y and buy tickets for the UCLA Mardi Gras! The Mardi Gras takes place on the athletic field at UCLA on May 13, 14 and 15. Tickets cost only \$2. Come see the big party (zoo) and meet all sorts of people with "alternative personalities."

Spring Sing!

Where can you hear the music from the Renaissance to Twenties' hit tunes, spirituals to Broadway selections, operatic choruses to barbershop quartets, all under the same roof, on the same night? At the Caltech Glee Clubs and Chamber Singers Spring Concert, that's where. Evening of May 21, at Beckman Auditorium. Featured will be excerpts from Carl Orff's *Carmina Burana*, Clément Janequin's *Le Chant des Oiseaux*, a Twenties' medley (sung and danced by the Women's Glee Club), and selections from the Broadway musical *Les Misérables*, which will soon be opening in Los Angeles. Buy tickets from the Caltech Ticket Office (356-4652) or buttonhole a Glee Clubber on the Olive Walk. Tickets are \$2 for Caltech students, \$4 for other students, and Caltech faculty and staff, and \$6 general admission.

Summer Work Study

Summer Work-Study sign-up forms are now available in the Financial Aid Office. If you are interested in Summer Work-Study please submit the completed form to the Financial Aid Office as soon as possible, but no later than May 27. Thanks for your patience. We, along with you, have been anxiously awaiting clarification from the federal government so we could proceed.

Chinese Ecology Tour

Source Media in Canoga Park is running a tour of mainland China from July 29 to August 15 that will include visits to the Great Wall, the Forbidden City, and various other major sights, as well as meetings with environmentalists in Beijing, Xian, Shanghai, Wuxi and Nanjing. Cost is \$2700. Call (818) 992-4526 for details.

Ebell Scholarships

The Ebell of Los Angeles Scholarship awards up to \$2,000 paid in monthly checks September through June. A few general requirements are that the applicant attend an approved college or university in Los Angeles County, the applicant's home residence must be in Los Angeles County, and the applicant maintain a 3.25 GPA. For more information on requirements contact the Financial Aid Office. Application and recommendations are due in the Financial Aid Office by May 16, 1988.

Japanese Grad Fellowships

Applications for the 1989 Japanese Government Scholarship for American graduate students to study in Japan are now available at the Consulate General of Japan. Applicants must be US citizens, under 35 years of age as of April 1, 1989, and possess a BA or BS degree from an accredited university or college. Application forms are available at the Consulate General of Japan, 250 East First St., Suite 1200, Los Angeles, CA 90012. Send 65¢ in stamps to cover postage. Inquiries may be directed to the Office of Cultural Affairs at (213) 624-8305.

Sensor Material Fellowship

The Center for Sensor Materials within the Department of Materials Science and Engineering at the U. of Notre Dame announces the Inland Steel/Ryerson Foundation graduate fellowship in Sensor Materials for Modern Steel Technology. The fellowship recipient must be a US citizen and be eligible for admission to the University of Notre Dame degree program leading to a Master's or Doctoral Degree in Metallurgical Engineering and Materials Science.

Interested candidates should submit a letter describing their qualifications, career goals and research interests. These letters should be accompanied by copies of their college transcripts, GRE scores, if available, and letters of recommendation from three references who are familiar with the candidate's background. Send all materials to: Dr. Albert E. Miller, Professor and Chairman, Dept. of Materials Science & Engineering, U. of Notre Dame, Notre Dame, Indiana 46556. For more information contact Prof. Miller at (219) 239-5330.

Summer Contracts

Summer contracts are now available in the Master's Office. Students are responsible for completion of the contracts. Deadline date is May 16.

Caltech Y Fundraiser

The Caltech Y kicks off its student fundraising campaign today. No, we are not gathering cash to buy students (the leasing program works better, anyway). We are, however, offering a party keg, soft drinks and munchies to the student house that raises the most money by the end of May. Look for a letter on your door or in the mail.

Frog SURF

If you are a junior majoring in engineering and you would be interested in a SURF in Vernon, France (working in the French space program), please contact Chris Brennan (1111 Thomas, x4117) as soon as possible.

Merit Awards

Each year, the Scholarships and Financial Aid Committee recommends a number of the most academically talented of the Institute's freshmen, sophomores and juniors for Merit Awards. Merit Awards are based on outstanding scholastic achievement as demonstrated by exceptional performance in formal classes and/or in independent research, and not on financial need. Last year the Committee recommended 33 Merit Awards at \$8,500 or \$11,000 each. This year 40 Awards will range from \$9,000 to \$11,600 each. Applications and a full description of the Awards are available in the Financial Aid Office. The deadline for submitting the completed applications to the Financial Aid Office is May 25, 1988.

Summer Ticket Office Jobs

The Caltech Ticket Office is seeking full-time summer student employees.

Responsibilities include daily ticket sales on computerized ticketing system, processing all phone and mail orders and related ticket office functions.

Requires friendly manner, good customer relations and good organizational skills. Computer and typing skills helpful.

Apply at the Office of Public Events, 332 S. Michigan Ave. from 10 am to 1 pm or 3 pm to 4:30 pm. Ask for Linda, or call x3833.

Start Thinking Of Nominees

In the spirit of recognizing the ingenuity of great Americans whose original thinking has shaped the character of the country's business community, Adolph Coors Company is calling for nominations for the 1988 Coors American Ingenuity Award.

Nominees for the Coors American Ingenuity Award must have made a significant contribution to American business, but not received widespread recognition for their accomplishments. The recipient may be retired; however, the award will not be given posthumously. Nominees can come from any field—management, manufacturing, technology, research, marketing, finance or education. The deadline for entries is June 3, 1988.

In addition to an original bronze sculpture, a \$5,000 scholarship will be given in the winner's name to help inspire future Ingenuity Award winners.

The past two year's winners were: Jack St. Clair Kilby, who invented the first working silicon chip, and Dr. John Atanasoff, inventor of the digital computer, if those two give you any ideas.

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