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April 14, 1989

Caltech Confusion Over Cold Fusion

by Matthew Fetterman, Bryan Kim, Ian Lovejoy, and Chris Rosin

Three weeks ago, Dr. Stanley Pons and Dr. Martin Fleischman announced that their experiments at the University of Utah had produced nuclear fusion at room temperature. A group at Brigham Young University, led by Dr. S.E. Jones, simultaneously made similar claims.

Since then, a group of physicists and chemists at Caltech have vigorously tried to duplicate this result, thus far without success. However, the Caltech scientists still do not rule out the possibility of cold nuclear fusion, noting that many details of the original experiments have not been released.

"Actual proof of fusion would be the detection of neutrons or gamma rays," claims Caltech physics professor Charles Barnes. He and his collaborators have attempted to recreate the cold nuclear fusion apparatus in the basement of Kellogg Radiation Lab. Caltech's neutron detector, one of the most sensitive such devices in the world, has not confirmed an emission of neutrons from the experiment. Also, highly sensitive gamma ray detectors have failed to measure the high-energy gamma rays that one might expect from nuclear fusion reactions.

Professor Nathan Lewis, an electrochemist at Caltech, has been frustrated in his attempts to duplicate the Utah results. "We don't have a sick patient so we can't diagnose it," Dr. Lewis says, confounded by the complete lack of evidence for nuclear fusion. In the preprint of the cold nuclear fusion paper, Pons and Fleischman report an extraordinary output of power, in the form of heat. Dr. Lewis' calorimetric measurements do not reveal any excess heat.

"On the basis of our present experiment it is possible that some important details of the original experiment have not been released," Dr. Barnes conjectures. The Caltech scientists have had to rely on sketchy data released in newspaper accounts. Perhaps a vi-

tal element of the Utah experiment, unknown to Caltech researchers, has prevented them from duplicating the results to date. For example, Dr. Lewis notes that the instructions for the activation of palladium have not been released by the Utah scientists.

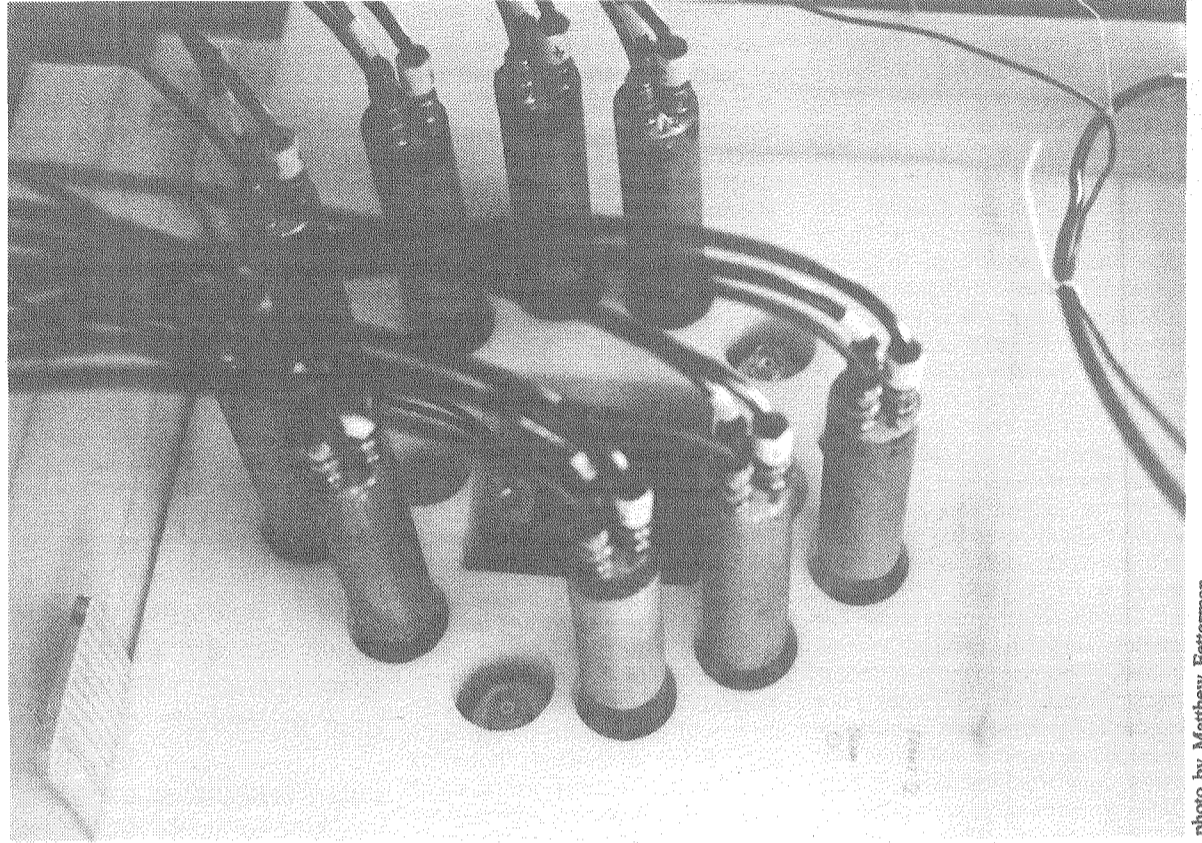
Lewis explains that the main argument for nuclear fusion is based on calorimetry; the experiment purportedly generates much more power than a chemical reaction ever could. A reading of the Utah paper reveals that the claimed high output of power was not actually measured, but derived from debatable assumptions. This is because the experiment is not performed in a closed container. "You've got an open system. You've got things dissipating," notes Dr. Lewis. Pons and Fleischman assert that a large amount of energy is given off to the atmosphere, in the form of fuels created by fusion. But the Utah scientists have not shown how much of these fuels are produced, or if they recombine to give off heat that has already been accounted for.

Nuclear fusion occurs when two particles are forced into intimate contact, combining to form a heavier particle and releasing tremendous amounts of energy. To move nuclei so close to one another, the repulsive coulombic force must be overcome. Modern fusion research has centered around subjecting the particles to extremely high temperatures and pressures, giving them enough energy to overcome the coulombic barrier.

Pons and Fleischman propose that the experiment takes advantage of an unusual property of palladium. Even though it is a metal, palladium is permeable to hydrogen. Pons and Fleischman make the palladium into an electrode, and continually generate deuterium, the deuterium nuclei get very close together. But Dr. Lewis states that current theory cannot explain how the nuclei could move close enough to initiate fusion.

Dr. Barnes suggests that if the

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A look at the Caltech cold fusion apparatus

photo by Matthew Fetterman

More Parking Spaces in 40 Years

by Emily Wen

Last Tuesday, the Pasadena City Council approved the Caltech Master Plan with a six to one vote. The only councilman who voted against it felt that the 25 years over which the plan was to take effect was too long.

One immediate effect of the approval is the vacation of Lura Street, portions of Michican and Chester Avenues, portions of San Pasqual Street, and Holliston Avenue. Caltech will be taking responsibility of maintaining these streets instead of the City. This will result in no Pasadena City parking tickets being issued in the the above streets.

Next Tuesday, plans on purchasing non-Caltech properties within the campus boundaries will be discussed. So far, Caltech agrees to pay \$50,000 for people moving

to areas within the Pasadena area, and a demolition fee of \$30,000 if moving elsewhere. A coordinator will also be provided. However, these people will not have to start moving until the construction begins.

The new Caltech Master Plan presents the guideline for future development of the campus of Caltech. Under the new Master Plan Ordinance proposed by the City of Pasadena in 1985, all non-profit institutions occupying two or more acres and planning 5,000 square feet or more of future construction were advised to submit a Master Development Plan to the City for review and approval. Hence, in July, 1986, a "Report on Existing Conditions" was presented to the City's Planning Commission. A final version of the proposed Master Plan had been developed based on feedbacks from the

Caltech faculty and staff, and the campus neighborhood. Three separate advise committees and numerous city departments, including the City's Public Works Department, the Design Review Committee, and the Cultural Heritage commission had reviewed and commented on the plan before the final approval on Tuesday. Although the plan was approved, there will be a compliance review held after one year, and general reviews held every five years.

According to Hall Daily, the assistant director of Public Relations, to get the construction done in 25 years is questionable. The plan will probably take up to 30 to 40 years. But a piece of good news there will be a big oversupply of parking spaces when the construction is finished. The number will be increased from the existing 2400 spaces to 3500 spaces.

Welcome, Pre-Frosh

by Andrew Hsu

It's a campus where your whopping tuition represents an insignificant portion of the general endowment of the campus.

It's a campus where the administration will not only help plan student parties but will actually contribute money towards them.

It's a campus that boasts the highest SAT scores for its incoming freshman class yet still manages to offer such intellectually challenging classes such as yachting and badminton.

This is Caltech. Not just your ordinary run-of-the-mill technical institute, Caltech offers some rather unique opportunities and personalities that just can't be found at that other technical institute whose name has suddenly slipped my mind. Hell, Caltech has some things that you can't find anywhere else.

One rather peculiar tradition continued on page 3

IHC Demands Apology

The Interhouse Committee, representing all seven houses, wishes to formally state that the pamphlet entitled "Pre-Frosh Survival Guide and Modified Schedule of Events for Pre-Frosh Weekend", handed out to pre-frosh at registration yesterday is in no way an official document.

It was printed by a small group of students and represents only their opinions. The IHC feels that some of these views were inappropriate for publication in such a manner, and we hope that those of you reading this pamphlet will consider it in an appropriate light.

The official position of the IHC

and the school administration is that minors may not drink alcohol. The activities planned by the Admissions Office were designed to give pre-frosh a broad exposure to the school and the surrounding area. If some of the events mentioned in this pamphlet do not transpire as advertised, the IHC hopes that this will not reflect negatively on Caltech as a whole.

Sincerely,

Ted Rogers, IHC Secretary
Marty O'Brien, IHC Chairman
Todd Schamberger, Page House President

Page Frosh Apologize

Recently, we published and distributed a handbook of alternate weekend activities. The purpose of this handbook was simply to entertain, not to instruct pre-frosh to avoid the scheduled activities. It has been brought to our attention that some people found the contents of this handbook to be inappropriate.

It is unfortunate that our publication was not received in the spirit in which it was intended. We are truly sorry if anyone was offended by the material it contained. In closing, let us add that this handbook was a collection of personal views and in no way represents the official views of Page House.

Crime Be a T



4-1 Computer equipment taken from 297 Holliston off campus house: IBM computer, IBM-EGA color monitor, 1 printer-IBM pro, 1 printer-Silver Reed Daisywheel. Total value \$3280. If taken by a student, please return.

4-6 Radio stolen from unlocked room in off campus house at 360 Holliston Ave.

Passenger door of car parked in Michigan/Del Mar lot tampered with.

4-10 Change machine in Baxter Vending Room broken into.

4-11 Turner Construction Site: A construction worker fell into a pit impaling his elbow.

Suspicious high schoolers seen near the north side of Ruddock. The youths had entered Ruddock 'to obtain soft drinks.'

4-12 Suspicious person seen exiting 328 South Holliston.

Harold Ginder's Crime: Many wallets, purses have been stolen from offices recently. If and when you leave your office, even for only 30 minutes, lock your office door and/or cabinets and desks prior to leaving.

letters to the editors

In Response to Hasok Chang's Letter to Everhart

Dear Editors:

There seems to be a consensus among many undergraduates on the issue of poor teaching quality at Caltech. But to attribute this poor teaching solely to the fault of the faculty is to do them a great injustice. Most of them, like many of us, are motivated by their own interests. They come to Caltech with the intention to do research. There is no incentive for them to teach, particularly lower division courses in which the material is so second-nature to them and thus quite uninteresting, that the majority take it as drudgery, something they have to do to stay at Caltech. This lack of enthusiasm is inevitable from the status quo by which a professor's tenure is judged mostly by the number of papers he has published, not so much the quality of his teaching.

The lack of motivation for teaching under the status quo seems to have given rise to the poor teaching at Caltech. Not only does it not encourage researchers, competent at teaching, to put much effort into using their teaching skill, it puts those researchers, incompetent at teaching, in classrooms. As the consequence, the students often end up going to many "incomprehensible, uninspiring" lectures. TQFR, CLUE, and departmental teaching evaluation merely scratch the surface of the problem, for they only give feedback to the faculty and do not in any way provide motivation for teaching. If anything

is to be effective in improving the teaching quality, it must change the status quo in a rather fundamental way.

Hasok Chang's letter has inspired me to come up with the following proposal which, if executed, would both satisfy the researchers and improve the teaching quality at Caltech. The proposal is that the Institute ought to consider hiring some new faculty, who are competent at teaching, whose primary job is to teach and not to do research. Let them teach all basic required courses to give students a real opportunity to learn the fundamentals in fields that they are planning to go into. Also, have their tenure judged mostly by their performance as teachers. The graduate and advanced courses shall continue to be taught by the researchers since they are the most qualified to teach these subjects, in the fields which they are specialized in.

From a researcher's point of view, the proposal is greatly to his advantage because 1) he would have more time to do research; 2) he would be motivated and delighted to teach the high-level classes. By teaching in his field, and by the students' questions and feedback, he would learn more on the subject. From a student's point of view, better lectures would yield higher understanding and thus inspire advanced pursuits. Furthermore, having learned the fundamentals in his expected field, he would be more inclined to ask the right questions and to challenge his imagination, rather than be intimidated by the avalanche of information, lost and confused, and thus end up with an attitude of indifference, a feeling of disgust toward the subject. Therefore, this proposal is also greatly to the students' advantage: it would give the students both the chance to learn the fundamental concepts as well as the opportunity to be trained by some of the world's most brilliant researchers in their fields.

I see no major disadvantages in this proposal except it would cost the school some amount of money to hire these new "teaching professors". But I strongly believe that the majority of the students would be willing to have a portion of their tuitions allocated for this purpose.

-Kin Ha
Page House 1-53
449-0583

Alternate View to Hasok Chang's

Dear Editors,

Reading Hasok Chang's letter last week regarding the poor quality of teaching at Caltech in general, but of physics in particular, struck me as being well-intended but rather unfair. Last week Hasok talked about some of his personal experiences, hoping to foster interest and ideas in the teacher/student affairs. I would like to offer an alternate view to his, as well as to share a personal story of my own.

It is quite the interesting coincidence that Hasok and I have had somewhat parallel experiences. Although we did not start in the same class, we will both be graduating this June. Our abortive dealings with the physics option are very similar; as Hasok had men-

"...but in the long run, who is to blame for our lapse in education, our teachers or our lack of true initiative?"

-Alex Wei

tioned before, the sad plight of the rerouted physics major is a common one. We both took a leave of absence to visit other schools for a change in perspective; he went to Hampshire College, I passed the time at UCLA. Needless to say, we benefitted greatly from our stay away from Caltech and returned with greater motivation and self-confidence.

I find it hard to agree with Hasok that poor teaching is the root of our eventual burnout in a given subject. Certainly some of our professors are more inspirational than others, but in the long run, who is to blame for our lapse in education, our teachers or our lack of true initiative? When I stopped being a physics major, my reasoning then was that physicists were poor communicators, both the lecturers and the textbook authors. In retrospect, I see now that I simply didn't have the patience to sit and think--two very important qualities for a successful physicist. As a chemist, I stand in front of a lab bench all day and run up and down

stairs to use instruments instead. It was personal style which dictated this change, not the confusing lectures and homework given to me by my sophomore physics professor (who I happen to think is a great guy).

I have a story which will provide a good example of what I am driving at, one which happened during my UCLA days. I had decided to improve my working knowledge of physics by taking a two-term course in electromagnetism called Physics 110, which was not quite the level of Caltech's Ph 106 which uses Jackson as a text, but certainly more difficult than Ph 1. I had figured, with classic Caltech egoism, to be able to comprehend the material with minimal difficulty, leaving my UCLA contemporaries to their own toil and sweat. The first half of Physics 110 served to reinforce this opinion.

This turned out to be a complete fallacy as the second, more difficult half of the course came into session. The ease with which I handled the previous quarter had set me up for a mind-shattering blow. By now I had already established a strong dislike for the class, and was continuing only out of principle. The teacher's lecturing style was horrible, and certainly on par with some of Caltech's worst. The students were quite unfriendly and unsociable, but perhaps worst of all, the wooden lecture seats were crafted in such a way that the only comfortable position was to sit in a slouch, often precipitating a lecture-long nap. It took a low D on the midterm to shock me into realization that the students whom I had held in contempt before were now my betters.

Call it integrity, or call it pride, but for the remainder of the term I took the class seriously. I did extra problems, consulted my TA regularly, and even read books from the suggested reading list. Luck was with me as the classroom was switched to a lecture hall containing clothed seats with cushioning. I can't say that I ended up with the highest score on the final, but I did get an A- which I am still very proud of. The most valuable lesson of all was being able to teach myself by providing my own impetus.

So now what do you think? Despite the mind-deadening conditions of Physics 110, I proved, at least to myself, that real learning is generated from inside. And while it's true that the teaching styles of some professors leave much to be desired, isn't it within the student's capacity to look up those extra references, talk to the TA's or even the professor personally? Caltech undergraduates are students who are gifted with incredible talent. I have very little doubt that something as surmountable as poor teaching will prevent them from learning it themselves.

-Alex Wei
House o' the Month
x3762

wish to commend them for their bold defense of free speech. To repeat their arguments here would be superfluous. However, I feel their response did not address the underlying motivation behind Mr. Langdale's letters.

Some background material at this time would be appropriate. First, although the *Tech* is read by people outside the Caltech Community, it must be remembered that the *Tech* is a student-owned, student-run publication primarily for the reading enjoyment of the students, who have not protested about the content of the IW. The true "official voices" of Caltech are *On Campus* and *Caltech News*, both of which, oddly enough, the students rarely see.

Also oddly enough, on the same day that his article appeared in the *Tech*, Mr. Langdale was prominently featured in a front-page second-section article in the *Wall Street Journal* which basically lauded him for his efforts in recruiting freshmen. In this article, Mr. Langdale states that Caltech

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Don't Censor

from page 2

wants "to give a little Southern California feeling to the [prospective] students." That's funny. I thought that Prefrosh Weekend was supposed to give a Caltech feeling to the students, which is significantly different. Ask an upperclassman when was the last time (s)he went to Magic Mountain. Such trips, as well as taking valuable time away from a weekend originally designed to orient prefrosh with Caltech, mislead prefrosh about the social opportunities available here. The guided bus tour of Los Angeles also seems to be meaningless in this respect. Though the tour of JPL will be informative about the research scientists conduct here, how many of us have ever been offered a tour of JPL?

However, I must acknowledge that some of the activities are worthwhile. The barbecue on Saturday afternoon is a good idea—it's a pity that such a social gathering to acquaint students and faculty isn't sponsored by the Dean sometime during the school year.

Not scheduling a distinct time for the prefrosh to visit classes is ludicrous. The weekend has been scheduled for the prefrosh in infinite detail, but an actual scheduled time for visiting classes has been left out. According to the schedule, the Admissions Office wants flexibility in preserving "the feeling of what the small classes are like." That's fine: small classes are an important part of the Caltech lifestyle. However, the sad reality is that usually at least half of a freshman's courses have over 150 people in them. Why not schedule the prefrosh to attend Physics 1 lecture on Friday to see what a big class is like? Wouldn't it be better to allow the prefrosh to see the class rather than letting him/her be influenced by a perhaps less-than-objective student?

The point is, Langdale's letter seems to be a plea to the Inside World writers to participate with him in a type of deceit that he is perpetrating on the prefrosh. True, the panel forums with the professors will give them a taste of what Caltech academic life is like—from the viewpoint of the professors. However, such events as the Magic Mountain trip, the tour of LA, the ice cream social, and the barbecue leave prefrosh with erroneous ideas about the social life here. The sad truth is that Prefrosh Weekend is one of the biggest social events of the year. Prefrosh from previous years have complained to me that they felt isolated from the rest of the student body during Prefrosh Weekend, and were therefore unprepared for much of life at Caltech when they arrived here. If this is true, Prefrosh Weekend is performing a great disservice to the prefrosh.

When I hosted prefrosh, I made sure they were exposed to all elements of life at Caltech—both good and bad. The excuse that "all schools do it" is not acceptable for crossing the line between accentuating our good points and sweeping our faults (some of which appear in the IW) under the rug. Prefrosh who come here without all the necessary information could become disillusioned and not complete their undergraduate course of study here. That would be a tragedy.

However, it is a cruel fact that Mr. Langdale is a new employee whose evaluations are based on public relations exposure (like the kind the Institute received in the *Wall Street Journal*) and the percentage of applicants who accept our offer of admission; therefore, perhaps he doesn't care whether freshmen stay here for four years. But the rest of us should. Perhaps Mr. Langdale should be less in-

terested in stealing national headlines with flashy and insubstantial recruiting techniques and more interested in using techniques that allow prefrosh to make rational decisions based on all the facts about Caltech. That way, the class of 1993 will be students who after being given enough information to make an informed choice, chose Caltech because of the intellectual challenge offered here, and not because Magic Mountain is nearby.

Sincerely,

-David A. Edwards
Dabney House
1-58

Ridicule Ridiculous

To the undergraduate community, Wednesday, April 12th, during Ph106 lecture, after the professor had used very casually the term "Spherical Harmonic," a student raised her voice to ask, "I don't understand what you said. What is a Spherical Harmonic?" The response she received was to have the class burst into laughter. One other student felt so moved as to yell out, "Where did you come from?"

This is inexcusable. Not only is this taunt cruel, it is ignorant. There is no required part of the curriculum that necessarily discusses Spherical Harmonics previous to their use in electrostatics. Furthermore, this will be the fourth year and the fourth professor during and under which the subject of electrostatics will be taught as if Spherical Harmonics are new or at least unfamiliar to the students.

Also, the student that asked the question was asking a fundamentally important kind of question. I don't understand the words you used. You seem to think I should. What do they mean? To ask such a question, should it arise, is the moral duty of the student. To deride someone for their ignorance (not stupidity, there is a difference) while they are participating in a class specifically to learn the material they were ignorant of is the act of a child.

The laughter was thoughtless and the entire class owes the questioner an apology. As for the person who yelled out the stupid and cruel taunt, he should take a leave of absence, go home, and ask his parents to take a second try at teaching him manners. He is obviously emotionally unfit to deal with the adults around him.

-H. Douglass Bloomer

More Pre-Frosh

from page 1

happens yearly in the middle of April and is perhaps one of the more controversial topics of debate among the generally apathetic campus. No, it's not the annual contest to see who can cheat the IRS so that they can get the largest tax refund. It's not even the famed and elusive ditch day [by the way, it's tomorrow] I'm referring to that annual event known as Prefrosh Weekend™

To the uninitiated, Prefrosh Weekend™ is Caltech's flagship in the effort to attract students that normally aren't found at Caltech. By showing these students how wonderful the campus would be, if only they would matriculate, the admissions people hope Prefrosh Weekend™ is just the ticket to convince the 180 attending high school students that Caltech is the place to be for the next 4, 5, 6, or even 7 years of their lives.

But wait. Unlike the previous years when Prefrosh Weekend™ resembled an experiment in organized chaos, with prefrosh sitting around bored like normal

Caltech students, the annual tradition has undergone a renaissance under the guidance of new admissions director Dan Langdale.

This year, Dan Langdale and the staff at the admissions committee, along with numerous student volunteers, have prepared the campus and prospective students for what seems to be the most hyped event since the introduction of George Lucas's movie, *Howard the Duck*. But unlike, the movie, Prefrosh Weekend™ won't experience as many problems since the planning for the weekend was done by Caltech staff and students. There is even a schedule of events that has been conveniently given to all the prefrosh, hosts, and other concerned people. But for those that can't get access to a schedule, my article will have to do.

Essentially, the admissions people plan to run the Weekend Club-Med style. That is, you can do all the activities that are planned, or you can do nothing at all. Prefrosh are advised to attend at least some of the presentations by the faculty since these faculty have generously taken time off to talk about their research, and curriculum requirements. Besides, unlike high school teachers, none of these professors wear double-knit polyester pants.

But life at Caltech isn't always pure science, although it sure is close. To prepare the prospective students for things to do during their ample free time when they become Caltech students, the admissions people have arranged an incredibly diverse array of activities that include a trip to Magic Mountain (also known as Wally World) on Friday, tours of JPL, and metropolitan LA on Saturday, and concerts by the Glee clubs. In addition, the students are also invited to a barbecue on the athletic field where a Caltech Jazz band concert and an activity fair will take place.

And if all that isn't enough entertainment, the ban on parties during prefrosh weekend seems to have been lifted, resulting in Page House having parties on Friday and Saturday night, and a Blacker/Lloyd/Ruddock graffiti party on Saturday.

But what do the prefrosh think about this vacation, err, extended tour of Caltech? After conducting an intensive survey of the new prefrosh, opinions have ranged from "...a very beautiful campus where everyone is nice..." to "...insufficient data to form an opinion about the campus..." Nevertheless, all the prefrosh seem to be enjoying themselves as they spend three days without parental supervision.

Some people have raised concerns over Langdale's alleged attempt to mislead the prefrosh by arranging a veritable plethora of social activities for the prospective students and not giving them a true feeling of life at Caltech. While Langdale certainly is doing things differently compared to previous years, the amount of social activities that are scheduled do not reflect any deliberate attempt by the admissions staff to provide activities that normal students here can not enjoy. As Langdale tries to stress, Caltech is located in Southern California and that implies that students have access to a large variety of social activities. Besides, most activities have been arranged by students who have volunteered their services to the admissions staff. So technically, students should blame themselves for misleading the prefrosh.

Prefrosh Weekend™ will be over before you know it, so stop reading the paper and go and meet a prospective freshman before the weekend is over. Don't forfeit your chance at influencing a friendly prefrosh.

Ferber Eats Weeds

by David K. Kim

On Friday, March 17, while many teachers completed last-minute finals or slept off the weariness of the week's efforts, a small band of people set out in three light aircraft for a small town about 100 miles south of San Francisco. Their goals were to boldly fly where only two men had flown before, fold and seal the "edge of the envelope", drop little containers of balsa wood, and avoid as many Military Operations Areas as possible. Two aircraft headed nearly straight overland, flying first to Paso Robles and then to their final destination: Hollister, CA. The last plane flew a liesurely coastal route, stopping in San Luis Obispo for lunch (fresh seafood is a pleasant change from BC). Hollister was the site of the 1989 SAFECON, a competition held between members of the Pacific Coast Intercollegiate Flying Association to test and hone skills necessary or desirable for safe operation of aircraft.

The Caltech Flying Team consisted of seven people and three aircraft rented from the Caltech/JPL Flying Club. Other teams came from Mt. San Antonio College, Embry-Riddle Aero University, Cochise College, University of Arizona, Cypress College, Palomar College, Orange Coast College, and San Jose State University, which hosted this year's meet. A few of the above teams were quite large and well-equipped, coming from schools that actually teach aviation. Most were friendly and enthusiastic and so the competition went well. In fact, some of them were very enthusiastic; I still have nightmares of hundreds of millions of people chanting "Cochise, Cochise, Cochise..." Most especially, the group from Mt. SAC was friendly and helped the Caltech team immensely with logistical support. Says one Caltech team member, "[Mt. SAC was] just all-around cool".

Foremost among the events held were those that actually required flying. Among these was the Power-Off Accuracy Landing (sounds like fun, no?) in which senior Jay Ebersohl, sophomore Rob Ferber, and grad students Barry Sheehy and Jim Kaufman competed. Jay (our captain) impressed us all by placing 6th out of 41, not too shabby considering the competition. There was also a Short-Field Accuracy Landing event in which the same people competed, suffering at the hands of unexpected tailwinds, as well as a Cross-Country Navigation event that was disallowed due to bad weather. Pilot Barry Sheehy would have done well had it been counted, except that his estimated fuel for a 1.5 hr flight was mistakenly entered as "0". He must have been thinking about Cold Fusion or something; talk about economy.

There were also several ground and non-control events, for example the "message" (read:bomb)

drop event. In this event, an aircraft flies over the runway at cruise speed at 200ft and tries to accurately deliver a small container. Competing here as bombardiers were freshman Robert Chang and sophomores Pam Katz-Rosten, Robert Ferber, and David Kim. Pam placed highest at 15 out of 39. In spite of the hours that had been spent beforehand in theoretical calculations, our operational policy was, in truth, to "Use the Force". Another event was the Simulated Comprehensive Aircraft Navigation (SCAN) written exam (all-around rules test with flight planning included), in which Caltech did very well, with Barry Sheehy placing 4th and Jim Kaufman 8th out of 44. Also competing were Jay Ebersohl, Rob Ferber, and Robert Chang. There was also a Preflight event in which participants were given 15 minutes to find all the bugs in a specially prepared airplane (Satan's personal Cessna 172, I claim). Driven crazy by this were David Kim and Robert Chang. Another event was the Simulator, in which pilots are required to fly a simulated airplane on a given course in instrument conditions (this is not easy). The device was very touchy and Caltech's Jay Ebersohl was DQ'ed despite having flown a very good course. Last but not least interesting was the Aircraft ID event, in which various slides of obscure or indistinguishable aircraft were flashed on the screen for 3 seconds and participants were asked to identify them. A sample: "Wait! That's a...uh...uh... North American...FN102 'Gazebo'...or is that FN102-A? No! Don't advance!! Not yet!" cries a participant as the previously unrecognizable aircraft is speedily replaced by something even more confusing. Conclusions: (1) There are an infinite number of things that look like Learjets, and (2) There are even more light twin-engine planes.

All in all, Caltech placed 7th out of 9 teams, pretty good since none of us are training to be professional pilots and three of us are still student pilots. Also, the events were a good deal of fun, if for no other reason than to meet with a lot of other pilots and learn about flying, although I'm certain these other pilots all wondered about the Caltech team when they saw Rob Ferber eating weeds by the side of the runway one morning. They must not have thought too badly; the Embry-Riddle team made him an instant celebrity. "I hadn't had breakfast yet and I was hungry!" protested Rob, secretly savoring his sudden notoriety. Next year there will be other competitions, including another SAFECON (This one in Douglas, Arizona) so if anyone is interested in the flying team or flying in general with the CIT/JPL club contact Jay Ebersohl in Ruddock, Jim Kaufman in West Bridge (x3807), or me at (x3968).

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Tennis Men Happy Again -Farnham Team Hero

by ThunderChris

Third term is in full swing and so is tennis season. After a full two weeks of spring break, Caltech's men's tennis team met a rude return, suffering crushing losses at the hands of MIT, Westmont, and Occidental colleges in the searing heat of last week.

Yet with the change in weather came a change in performance, as Caltech stormed over Whittier College on a chilly Tuesday afternoon, defeating the opponents 6-3.

Whittier, already having suffered a terrible loss to Caltech earlier this year, arrived at the courts with upset once again in the

players' minds. Perhaps they hoped the long lazy days of vacation softened up the CIT competitors or that the recent losses had drained them of their winning desire.

Although Whittier put up a valiant fight and had several chances to force the day's match down to the final doubles matchup, Caltech dug deep and put it away with a crucial singles victory.

Playing the same Whittier player as last time, top player Raleigh Chiu returned to a high level of play, recovering from a plaguing shoulder injury from second term and daringly demolished his opponent in two deft sets, 6-3, 6-2.

Dan Pang, in the second spot, had even less trouble disposing of his opponent, dismantling him 6-2, 6-1 with a dazzling display of all-court coverage. #3 David Garza, facing a hungry opponent, became involved in a fierce groundstrokes duel, but was defeated in a draining two-setter.

Anh Tuan Le, in the fourth spot, also encountered a relentless foe, yet found the resources and cunning to crush him 6-4, 7-6. Hemant Keny played in the fifth spot and found himself dropping the first set. Although Keny came back in the next set 7-5, the fast-paced games turned against him,

and lost the third set.

The match of the day came in the sixth singles spot, with Lloyd Farnham representing the Beavers. Farnham, hitting well under control with good pace and placement, quickly won the first set 6-2. However, his opponent overcame his frustrations and began putting away points with authority, forcing a third and deciding set.

Carrying almost all of the momentum into the set, the Whittier player quickly went up 5-1. With both teams watching and time running out, it seemed it would take a miracle or better for Farnham to regain the rhythm of the first set and win another game.

But maybe there was a miracle. Farnham delved deep into his mind and found the determination of a lifetime, regaining strength, concentration, and strategy. Not only did he win the next game, but brought the set back on serve.

At this point, the pressure must have been unbearable, as both players stayed at the baseline, preventing any net game with deep, well-placed groundstrokes. Even

when one player pounced on a short ball and approached the net, ideal lobs would return them to the seesaw pace of before.

After a couple games in the pressure-cooker, the set went into a tiebreaker. Farnham immediately won the first point, and would later go up 6-4 with a mini-break and two match points in hand.

However, much to the dismay of his teammates, Farnham double-faulted. The Whittier player, serving to survive, returned to the long, slow groundstrokes game, but just could not cope with the stress and hit just wide on Farnham's backhand. With the opponent's unforced error, Farnham had not only won the third set and his singles match, but had clinched the team victory for Caltech.

In doubles, the first match was over even before all the singles had finished. Garza and Chiu simply smashed the Whittier pair, sizzling to a 6-3, 6-1 subjugation.

In the second doubles spot, Pang and Le struggled to win a 7-6 first set, but dropped the second

continued on page 5

WEEKLY SPORTS RESULTS

Day	Date	Sport	Opponent	Results
Fri.	4-7	Baseball	Redlands	6-12
Sat.	4-8	Tennis (W)	Whittier	2-7
Sat.	4-8	Baseball (2)	Redlands	1-3, 2-9
Sat.	4-8	Track	Christ, LaVerne, Masters, Whittier	Men, Caltech 132, Whittier 89, Masters 66, Christ 36, LaVerne 14
				Women, Caltech 97, Christ 56, Whittier 34, LaVerne 28, Masters 4
Sat.	4-8	Tennis (M)	Occidental	1-8
Mon.	4-10	Golf	Redlands & Occidental	loss, forfeit
Tue.	4-11	Tennis (M)	Whittier	6-3
Tue.	4-11	Baseball	Pac. Coast Baptist Bible College	1-7
Wed.	4-12	Tennis (W)	Claremont-Mudd-Scripps	0-9

Movie Stars Gone

by George Callow

What do you have when you take one Athenaeum, a Danny Devito, a Kathleen Turner, and a Michael Douglas? The answer, of course, is roses.

These three talented performers were at Caltech last week to shoot several scenes from their upcoming movie, "War of the Roses." Devito describes it as, "...passion, love, divorce, and furniture...." The film is a comedy about a wealthy couple, Oliver and Barbara

Rose (Douglas and Turner), who are having a "tumultuous" marriage. Devito stars as a divorce attorney. At the time of this writing, there was not much more information about the film, but Fox publicist John West said the story leads to a "unique conclusion." West also said the scene at the Athenaeum was the Ecuadoran embassy garden in the story. The film is due to be released in November of this year, and promises to be very entertaining and worth watching.



Michael Douglas accosts two Lloyd frosh, Ari Kaplan and Fiona Lo.

photo by Matthew Fetterman

News From The Y

Monday noon:
4/17/89

The Y Excomm meets every Monday at noon to discuss future programming ideas which the Y might produce. If YOU have any clever, entertaining and viable ideas, you are welcome to bring them by. Also, there are some vacancies on the Excomm for those self-selected few who have interests which can, with some practice, be translated into programs which would interest and benefit the Caltech campus. While much work is expected, those who do contribute feel highly rewarded as part of a high performance team developing skill which they will use the rest of their lives.

program begins with a reception at 6pm followed by dinner and the program, and the discussion will be fairly open and informal. It'll be held at the ATH, and ---yes--- there's even room for a few more students to go! See the Y office for more information.

Wednesday noon:
4/19/89

Today's noon update features thrilling views of hypersonic (not merely supersonic) flight, the jet engine technology required and how some of this might apply to new power plant design ideas. Held in Winnett Club Room I at NOON. Refreshments provided.

Tuesday night:
4/18/89

Dennis Smith will discuss how proper business planning can make or break either a new or established business. Dennis is a very sought-after consultant with his firm Integrated Business Systems. The

Friday night:
4/21/89

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D O M I N O ' S P I Z Z A

sports

Track Wins Four More. Men are 15-4, Women 15-3

by Joe Fierro

The Caltech Track Team crushed all comers in the meet of the century - *Caltech Invitational III* (not to be confused with *Wrestlemania V*). It was only available through pay-per-view on your local cable systems unless you were one of the lucky thousands who was able to see the event live. Christ College, Whittier, LaVerne, and Masters were the four universities that had to suffer the agony of defeat at the hands of the Mighty Beavers, who chose to dress in fluorescent orange in a questionable fashion statement.

When the final point totals were tallied, the Caltech women had scored 97 points, easily demolishing Christ College (56 pts), Whittier (34 pts), LaVerne (28 pts), and Masters (4 pts). The men's results were Caltech 132, Whittier 89, Masters 66, Christ College 36, and LaVerne 14.

The Women

For the second straight week, Bibi "Wonderwoman" Jentoft-Nilsen showed incredible stamina in the sweltering 107 degree heat by winning the 1500m (5:33) and 800m (2:30), and placing second in the high jump. Liz Warner limited

herself to only four events this week but made the most of it by winning efforts in the triple jump, the long jump (tying the school record of 16'6-3/4"), and the 200m (setting a new school record with a time of 28.0 seconds).

Caltech also received first place races from Emmeline "San Francisco Sucks" Naranjo in the 100m Hurdles and Cathy Hafer in the 400m. However, the best race was saved for last. In an incredible grudge match, Golda Bernstein, running her fourth race of the day, battled Vicki Lane, who was running her third race of the meet, for every step of the 3000m. The two ran neck-and-neck the whole race as the crowd was beside itself in anticipation, threatening to erupt in uncontrollable violence.

Fortunately, officials held the fans in check as Golda and Vicki raced down the final stretch. Vicki was a few steps ahead with ten yards to go, but an amazing surge by Golda provided a photo-finish.

In the controversy that followed, a few small fights broke out and some punches were thrown, but the officials decided to award a tie to the two runners in order to avoid any more bloodshed.

The Caltech men elected to rely on strength in numbers; they entered six men in the 800m, eight men in the 1500m, and five men in the 5000m. John "Mr. Vicious" Raguin led the Beavers in the 800m with 2:06.5, and Dan Flees ran a 4:24.6 in the 1500m to lead Caltech in that race. Scott Kister placed third in the 5000m behind two world-class runners from Masters, but he dominated the 3000m Steeplechase, beating the nearest competitors by almost four minutes.

The Men

In a similar effort, Sean "The Beast" Hilliard cruised to an easy win in the 400m by over 2.5 seconds. Randy Ralph still threatens to break the school record in the high jump with his leap of 6'4" to

take first in that event. Sheldon Lim recorded a mark of 18'6-3/4" to take second in the long jump, while Bill Swanson and Albert Lee placed second and third in the triple jump with fine marks of their own.

Steve Harkness won the shot-put for Caltech with a throw of 39'7-1/4", and Ed "Pretty Flower" Mao rounded out the field events by taking second in the discus. Thanks to meticulous strategy by Coach Jim O'Brien, the Caltech men spread their scoring around to win the meet going away.

As the last race ended, we saw the fastest sprints of the day as fans and runners alike made a mad dash for Mrs. Coach O'Brien's world famous sandwiches, which left everyone satisfied. In a team meeting afterward, Mrs. Coach was elected the new team captain, replacing the ailing Mark Lyttle, who was last reported in critical condition at Munir Bhatti Hospital.

Bridge Championship

by Jack Singleton

While most students were packing up to begin Spring Break, Caltech sent a team of four bridge players (Bill Cross, Sam Dinkin, Kenny Horneman, and Dave Sonneborn) to Reno to compete in the North American Collegiate Bridge Championships. The four earned the trip as a result of a Par Tournament held first term.

The other schools participating were Harvard, University of Illinois, Rensselaer Polytechnic Institute, Rice, and the University of Tennessee.

Friday night, after the first half of the round robin competition, Caltech was in first place, and by Saturday afternoon, Caltech had advanced to the semifinals. The team lost to Harvard in the semifinals, who in turn lost to the University of Tennessee in the finals.

The next day the team won four of eight matches in a Swiss Teams event, the Nevada State (Flight C) Championships.

Last weekend, the Caltech team of Bill Cross, Sam Dinkin, Maneesh Sahani, and Fred Upton travelled to the University of Michigan for the First Annual Collegiate Bridge Weekend, competing against six teams from three schools - the University of Akron, Indiana University, and the University of Michigan.

Saturday they won three of six matches during the round robin event in the afternoon, and fared less well in the evening Swiss Teams event.

The individual match on Sunday, however, spotlighted the team's talent, with Bill Cross placing ninth (of 24), Sam Dinkin plac-

ing seventh, and Fred Upton who had an impressive second place finish. One hand from the weekend deserves to be spotlighted:

♦ A K 10 6 4	♥ Q 7 2	♦ K Q 6 2	♦ A
♦ 9 7 2	♥ 10 4 3	♦ 9 7	♦ K J 9 8 3
♦ 8 5 3	♥ 9 6	♦ J 10 8 5	♦ 10 7 6 5
♦ Q J	♥ A K J 8 5	♦ A 4 3	♦ Q 4 2

A Grand Slam in Hearts (or Spades, or NoTrump) can be made easily, but it is difficult to bid without using Roman Key-Card Blackwood. As it was, Fred and Bill bid to small slam in hearts, while at the other table some psychic bidding by Sam and Maneesh kept the opponents to game in hearts.

Further inspection shows that if the East-West pair bids seven clubs (doubled), they profit if the North-South pair at the other table bids (and makes) seven hearts.

The Caltech Bridge Club wishes to thank the ACBL (American Contract Bridge League) for financing the team's trip to Reno and paying for their lodging in Michigan.

We would like to thank the Caltech Y, the Caltech Service League, the President, and ASCIT who together paid our plane fare to Michigan. And finally, we would like to thank the MOSH, who from his own wallet contributed funds toward the in-flight movie.

WEEKLY SPORTS CALENDAR

Day	Date	Time	Sport	Opponent	Location
Fri.	4-7	3:00 pm	Baseball	Redlands	Redlands
Fri.	4-7	11:00 pm	Hockey	Golden West	Burbank
Sat.	4-8	11:00 am	Baseball (2)	Redlands	Caltech
Sat.	4-8	12 noon	Track	Christ, La Verne, Masters, Whittier	Caltech
Sat.	4-8	1:30 pm	Tennis (W)	Whittier	Whittier
Sat.	4-8	2:00 pm	Tennis (M)	Occidental	Occidental
Sat.	4-8	7:00 pm	Hockey	Cal Lutheran	Burbank
Sun.	4-9	1:00 pm	Soccer Club (W)	Furies	Caltech
Sun.	4-9	1:15 pm	Hockey	Warden Cup Final	
Mon.	4-10	1:00 pm	Golf	Redlands	Occidental
Tue.	4-11	3:00 pm	Baseball	Pac. Coast Baptist Bible College	P.C.B.B.C.
Tue.	4-11	3:00 pm	Tennis (M)	Whittier	Caltech
Wed.	4-12	1:00 pm	Golf	Redlands	Claremont-Mudd
Wed.	4-12	3:00 pm	Tennis (W)	Claremont-Mudd-Scripps	Claremont-Mudd
Fri.	4-14	3:00 pm	Baseball	Whittier	Caltech
Fri.	4-14	3:00 pm	Tennis (M)	Christ College	Caltech
Sat.	4-15	10:30 am	Tennis (W)	Redlands	Redlands
Sat.	4-15	11:00 am	Baseball (2)	Whittier	Whittier
Sat.	4-15	11:00 am	Track	La Verne	Pomona-Pitzer
Sat.	4-15	2:00 pm	Tennis (M)	Claremont-Mudd	Claremont-Mudd
Sun.	4-16	1:00 pm	Soccer Club (W)	Mavericks	Caltech

Tennis

from page 4

4-6. Down 1-4 in the third, they were able to come back a force another tiebreaker, with hopes of pulling off an incredible comeback similar to Farnham's conquest.

However, this tiebreaker was not quite as kind to Caltech, as Whittier would win its third and last team point with a 9-7 tiebreaker score. In third doubles, Keny and doubles-specialist Jimmy Ng once again found the winning combination and synergy and trounced all over their opponents 6-4, 6-1, their second doubles victory in as many matches.

In the end, it would seem that the men's team is well on its way on getting into the groove. Although the two weeks of vacation may have had some negative effects on the players' games, Tuesday's conquest may indicate the team is back to its normal self. Join in on the fun as Caltech goes for its second consecutive win Friday against Christ College right here at

home. And wish the team luck as they travel away Saturday and meet Claremont-Mudd-Scripps.

(And from this writer to you, welcome back to Caltech and all that it has in store for you. And to all the pre-frosh here this weekend, enjoy your stay and I hope to see most of you next year! ... C. Ho)

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entertainment

Accomplice

In "Accomplice," playwright Rupert Holmes's flair for mystery, first evidenced in his musical "The Mystery of Edwin Drood," has been brought to the dramatic stage.

And what flair. Described by one of its characters as merely "a two-act, four-character thriller," "Accomplice" opens simply enough: in a cozy country home, an English wife is making necessary preparations—to murder her husband and her lover's spouse. It's like the slow haul to the top of a roller coaster. Once you're there, the twists and turns of the plot carry you downhill, screaming, to the final, splashing climax.

Trying to describe the plots-within-plots, the level-within-levels is not impossible, but would certainly ruin your enjoyment of seeing the play unfold. Suffice it to say that there are echoes of "Deathtrap" and Agatha Christie's "Mousetrap"—and that seeing Terry Gilliam's *Adventures of Baron Munchausen* wouldn't hurt.

The first act-and-a-half moves along crisply; only the final section, where reality and fantasy blur and the stage extends beyond the proscenium, seems forced and vaguely dissatisfying. But one wonders: did the playwright intend even that?

The stars of the production—Pamela Brüll, Michael McKean, Natalia Nogulich, and Harry Shearer—performed brilliantly. Nogulich was particularly appealing as the actress-murderess. Besides "Drood" (whose West Coast premiere was in the Pasadena Civic a year ago), author Holmes is best known as the composer/performer of "Escape," the song that boosted Piña Colodas to their current popularity.

"Accomplice" has been extended twice during its world premiere run at the Pasadena Playhouse, but must end April 23. Don't miss the opportunity to see a future perennial during its maiden run.

—Gavin Claypool



In a scene never written for the play, Pamela Brüll (standing), Harry Shearer and Natalia Nogulich appear in the world premiere of Rupert Holmes' thriller, *Accomplice*.

Otello

In a production reprised from its Inaugural Season of 1986, the Los Angeles Music Center Opera presented Verdi's *Otello* to sold-out audiences last month.

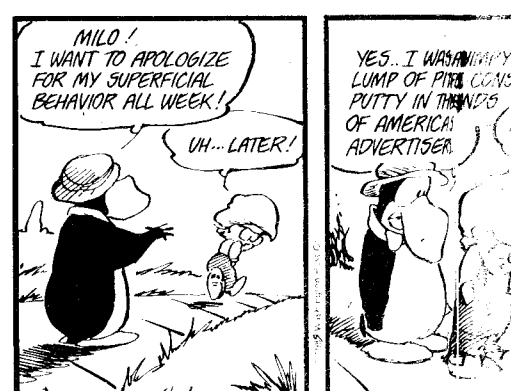
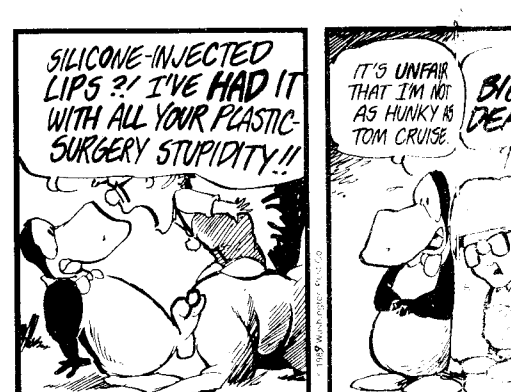
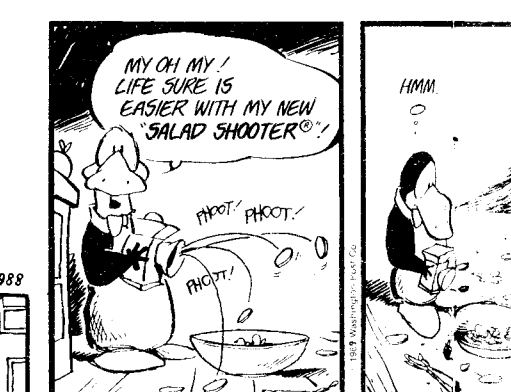
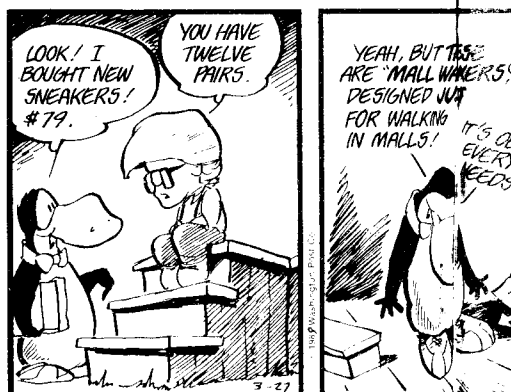
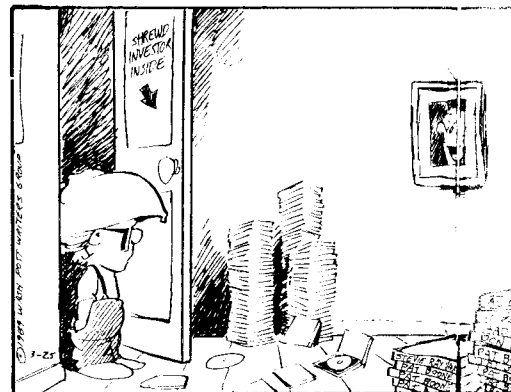
LAMCO Artistic Consultant Plácido Domingo was commanding in the title role, but the story—as are most versions of *Otello*—was stolen by Justino Diaz's Iago. His "Credo in un Dio crudel che m'ha creato simile a sè" (I believe in a cruel God, who has fashioned me in his own image) was a consummate statement of villainry. Both Domingo and Diaz starred in their respective roles in the recent Zeffirelli film version.

Hungarian soprano Ilona Tokody made her debut with the Los Angeles Opera as the doomed Desdemona. Her poignant "Willow Song" in the final act quietly portends the tragic conclusions that follow.

The staging of the opening scene, with the Los Angeles Master Chorale as Cypriots awaiting the fate of their governor Otello's ship, was a remarkable concoction of darkness and light, music and sound, the oscillation of the cast evoking the unseen waves and the threatening storm.

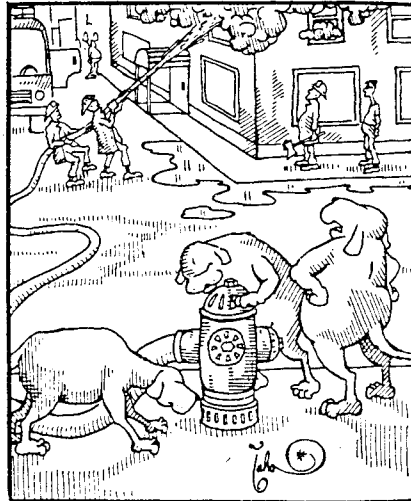
The next production of the Los Angeles Music Center Opera is *Salome*, on April 18, 23, 27, and May 1. It's also reprising the production from the initial season, which sold out. The season will conclude with Offenbach's parody *Orpheus in the Underworld*, with 17 performances starting June 14.

—Gavin Claypool



Odyssey

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Are we somehow responsible for all of that?

—Paul Socolow

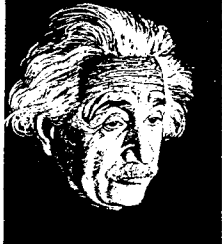
Penn and Teller Magical

Although they perform magic tricks, Penn Jillette and Teller are certainly not magicians; their creative shows have actually earned them the scorn of the mainstream magic world. They are funny enough to keep the audience laughing throughout their nearly 3-hour show, but they do not want to be considered comedians. They are, first and foremost, vaudeville performers, remnants of the freak-filled side, or as Penn prefers, ten-in-one, shows.

To tell any specifics about the show, running until Sunday at the Wiltern Theater, would be to reveal too much. In the first half, they perform their standard humorous tricks, a few of which most people have seen before, such as the "Casey at the Bat" sketch. After intermission, however, the mood of the show changes, the audience doesn't laugh as much, and some of the material was obviously never meant to be funny. One begins to wonder where the duo is

headed, until, when the last scene begins, the audience is unsettled. Then they have fun. In a scene that only has relevance at the end of their carefully constructed show, they reveal a secret which brings down all of one previous conceptions about their craft.

Penn and Teller have performed numerous times on television, but only in their live show does one get to look at their souls. See them before they leave!



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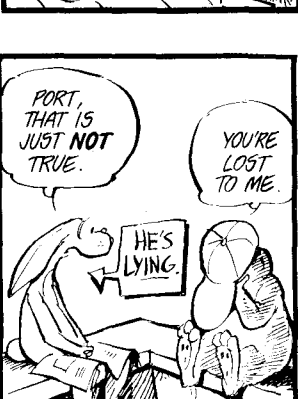
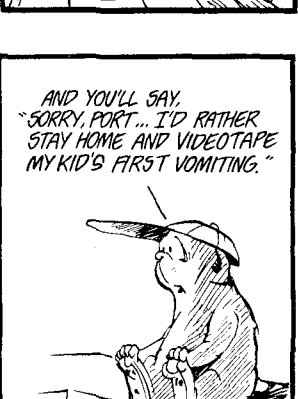
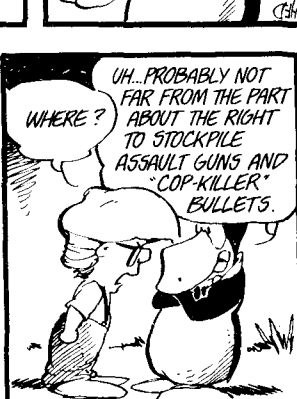
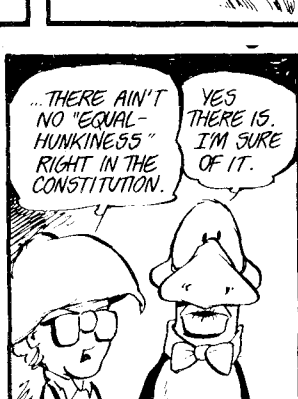
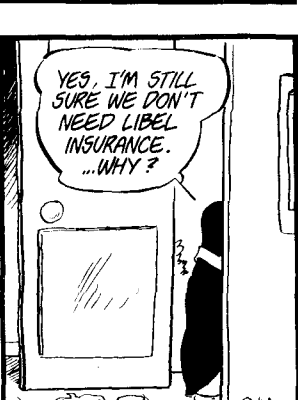
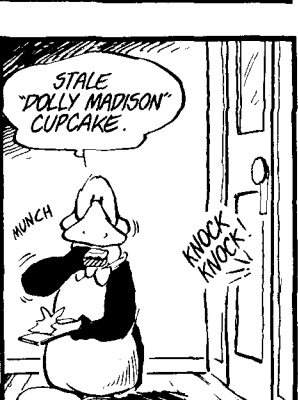
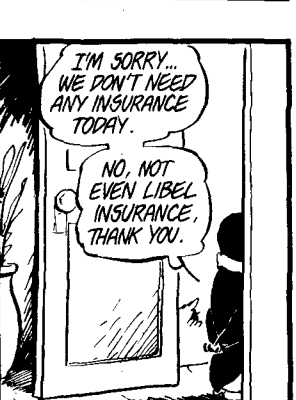
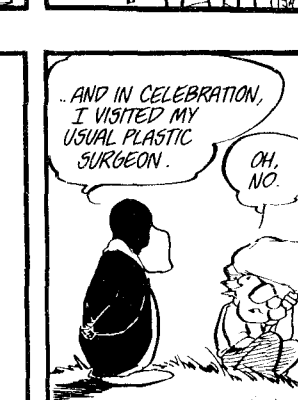
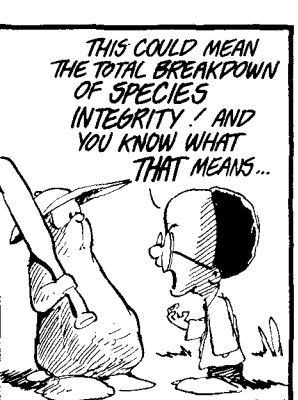
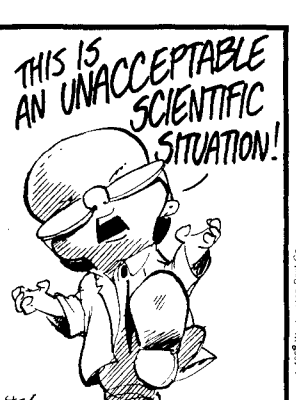
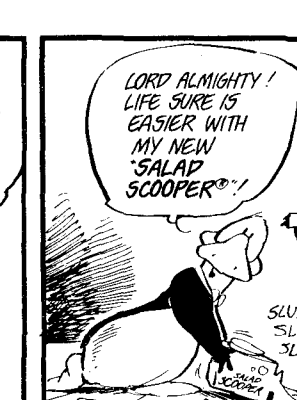
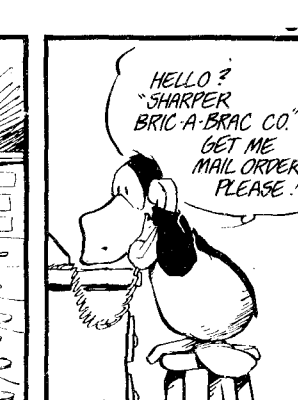
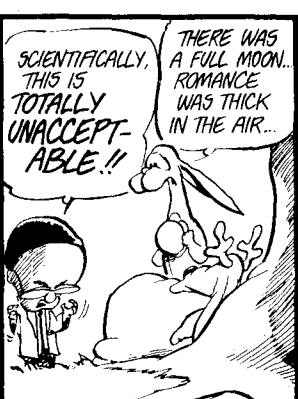
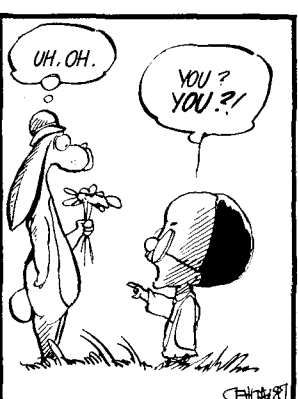
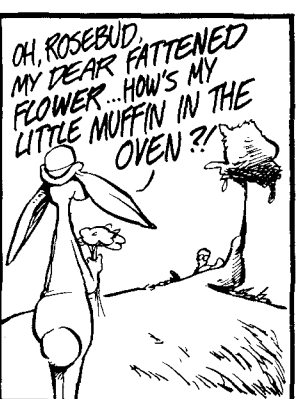
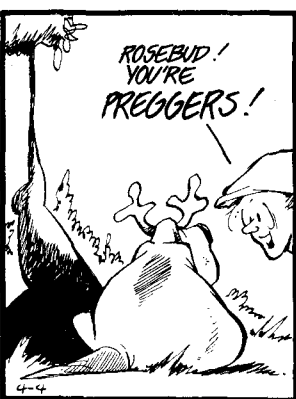
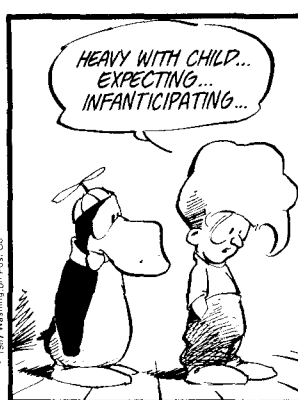
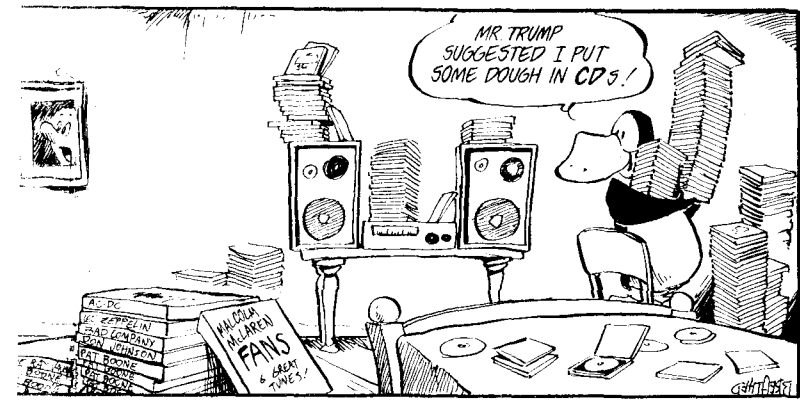
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by Berke Breathed



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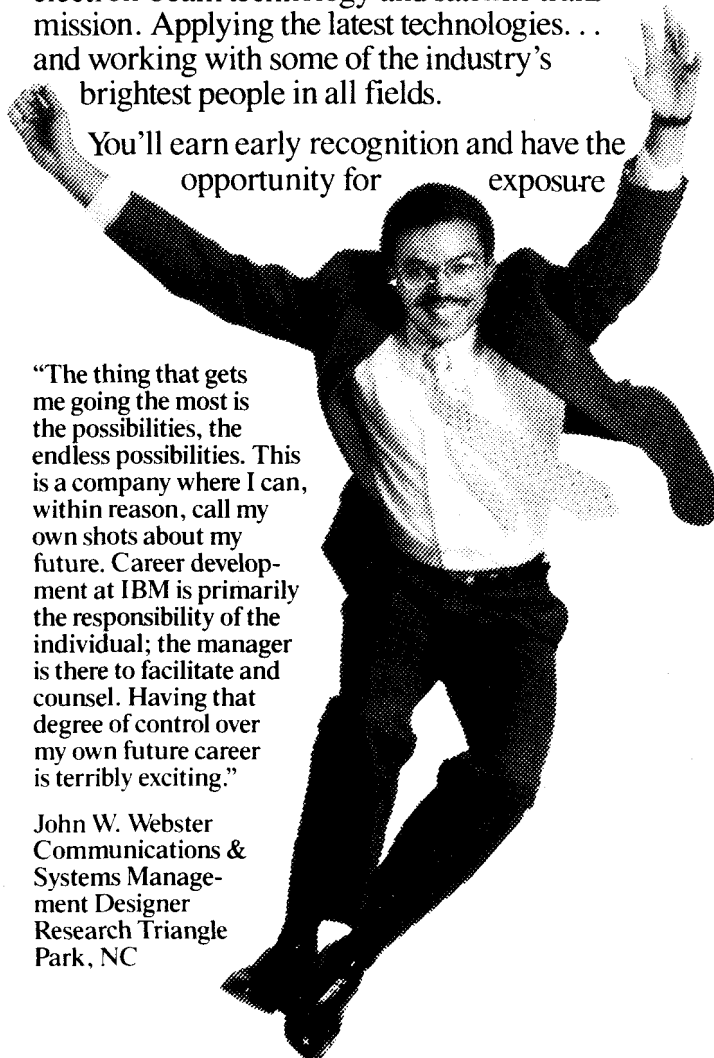
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More Cold Fusion

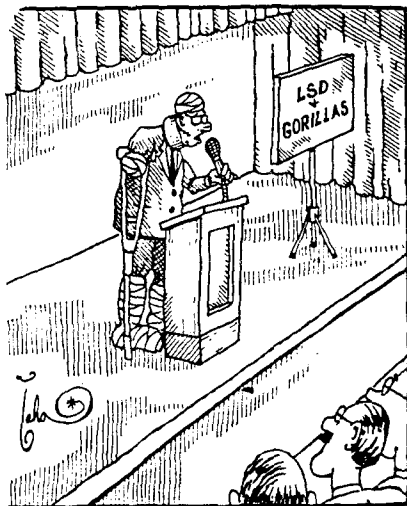
from page 1

nuclei were moved close enough together, quantum mechanical tunneling could bring them the rest of the way. The nuclei would tunnel through the coulombic barrier. This effect could be further enhanced by the reduction of the coulombic barrier, resulting from the relatively high density of electrons in the metal. But he says that he would have expected far more neutrons that the Utah group reported, were such a process to occur. "If neutrons were actually being produced at the rate that would be inferred from the heat output, assuming it's coming from nuclear fusion of the sorts we know about, you would have to go more than one kilometer away from this thing before the inverse square law would reduce the neutron flux to what we call industrial tolerance level."

However, scientists at Texas A&M and Georgia Tech have supported some of the cold fusion results. Texas A&M has obtained similar calorimetric measurements, and Georgia Tech claims to have detected neutrons. Other scientists speculate that neutron emission is only required for momentum conservation, and that, in this case, the palladium lattice itself could absorb the necessary momentum.

The Utah experiment has been noted for unusual scientific content, and also for the unusual way it was released. Dr. Barnes offers some comments on good science, "Always be sure of your results before you publish them...the proper way to proceed is to publish the results in a scientific journal first. If it's something the public is interested in...it can be discussed in the public forum as well. Many people have said that the first two reports were premature...there's some element of truth in that."

Yet cold nuclear fusion remains a highly intriguing subject. Most reputable scientists, including Drs. Barnes and Lewis, have been unwilling to rule out the possibility of cold nuclear fusion.



Dr. Thompson gives a series of lectures on the effects of LSD on gorillas.

The Inside World

This week's **Inside World** was brought to you by:
Fleming: Pierce T. Wetter and Chris D. Habecker
Ruddock: David W. Proctor and Nik R. Joshi
Ricketts: Daniel H. Raguin
Lloyd: Curt O. Hagenlocher and Garrett W. Choi
Dabney: David A. Edwards
Gwoho: Gwoho H. Liu

Fleming

Another term, another inside world. Let's see, what's happened in the house since my last inside world. Well, Melinda said I could write anything I wanted in the inside world. Alecia said she didn't care what I wrote, which hurt my feelings since we all know how dedicated I am to the inside world, what with the hours I spend proofreading it and all.

Of course, Melinda then tried to back out of it because it seems that her parents have a subscription to the Tech, so I guess I can't talk about her getting arrested on a morals charge by Caltech Security (Note to Melinda's Parents: I'm just kidding, honest.). It was a fun party though. (I wonder if Melinda remembers any of it?)

I have a job now so all of you underclassmen who were worried about my hanging around Caltech forever, destitute, can relax. Of course, I still don't have my senior thesis done (sigh).

Joke: Just yesterday, a sophomore, a junior and a SENIOR were sitting in the lounge talking about their sex lives.

The sophomore said, "Last night I made love four times, and the next morning my chick made me an omelette and told me I was the best lover she'd ever had."

The junior said, "Oh yeah? Well, last night I made love SIX times, and the next morning my babe made me pancakes and told me she'd love me forever."

The sophomore and junior noticed that the SENIOR hadn't said anything in all of this, and began to press him with questions. "Well, how many times did YOU make love last night?" "Once," replied the SENIOR. "Oh, and what did your girlfriend say the next morning?" "Don't stop."

What is Melinda's real hair color? And does she dye her pubic hair too? (Maybe Barry will tell me.)

House News: We're still awesome, the other houses are still lame. WILDEMOSH came to dinner, but wasn't brave enough to dare a green light meal. Miniature golf was lame, but the IceHouse this weekend should be good. Even Habecker can play better than any of the other house's basketball teams. Ditch day was Thursday, Frosh. You missed it. (Note: I wrote this on Wednesday.) Daniels is still a Fag, but Nordstrom is now a Nazi Toad. Last Saturday's Porn Movies on Firestone was the scariest thing I've ever seen.

THE PREFROSH ARE COMING! THE PREFROSH ARE COMING! Quick, make Caltech look even more boring than it actually is by instituting Rotation rules! (Uh, what do I think of my house. It's uh, really nice. The other houses? They're uh, ok, I, uh, guess.)

Strange but True: Bill Swanson is actually bald! Yes, he's wearing a toupee. (Honest, he told me himself.)
 The MOSH used to be the fifth ZZ-TOP.
 I had a date last term.

Quick everyone, go over to the Admissions office and get your tickets for Tomorrows Bar-B-Que. Unless you'd rather cook on Saturday. That's enough for this week.

The one, the only, NeanderFlem.

Current events postscript:

Untold numbers of submarines will now be free of the "liquid sodium coolant" problem recently experienced by the Soviets thanks to an observation made yesterday at lunch. It was noted that no one has ever noticed the slightest bit of heat buildup in Gary's vegetables, suggesting that a liquid version of said veggies (what a yummy thought) could provide the coolant breakthrough the world has been waiting for.

Cold fusion? No problem. Muhly's had that one licked for years. Just ask anyone who has been around him on burrito night.

New hope for scurves... Techniques being used to remove the tar-like oil from the bodies of otters and birds at Prince Sound, Alaska may someday make it possible to remove that strange layer of black crud which is evident on the feet of so many scurves.

-Neanderflem and The Wondrous Albino.

Gwoho

A Story About a Column, a Door and a Chimney To Kuovonne

Are you sleepy? Too bad it's bedtime. Do you want me to tell you a story? You will fall asleep before it's over-everyone who hears it falls asleep-and you will dream about a big green tree, but that is not important because you will forget it. I heard this story at school while a column, door, and chimney were talking to each other.

"The weather is nice today," said the column. It was a column with animal heads on the top and no bumps. My sister has a strange name for this type column which she learned in her school. "And the grass is dead. Too bad they removed the trees," continued the column. The column liked to talk, and the chimney did not like this. It was proud because it was lined well with fine black ashes on the inside, and it could even whistle when the wind blew right. "Be quiet. I am lined with fine black ashes and can whistle and the fireplace under me has a pretty red and yellow fire!" it said and the birds said, "Tweet! Tweet!"

The door liked to tell stories, and suggested that it tell one. "No, I would rather talk about the grass," said the column. "I would rather whistle," said the chimney. "The grass is dead and there is no wind, so I will tell a story," said the door. There was a building beside the grass that stopped the rain, so the grass turned brown. There was no wind for some complicated reason, but it is not important so I will not tell you.

The door started, "Once a long time ago there was a princess-but she is dead now, for if she were alive now, it could not have been a long time ago. She was unhappy because she had to study laws to rule well when she was grown and became the queen. All rulers should study laws because a ruler can not rule well without knowing what the law says. A ruler who does not know about the laws might do something wrong and be called a bad ruler, and nobody wants to be called a bad ruler. The princess wanted to go out and play with her ball with bright red dots on it.

"I want to go out and play with my ball with bright red dots" she said. "Do your homework," said her mother, who was a queen, which was not just a coincidence for princess's mothers were often queens. The princess hated doing homework because it was not very fun, especially when the questions were difficult, so she went out to play with her ball. The queen did not tell her to do her homework again because she went to visit a relative.

"There are also a mouse and a cat in this story. Do you want to hear about them? You have to, because they are in the story too. In the kingdom where the princess's father, the king who was married to the queen, which was not so very unusual, ruled was a mouse and a cat. They were the same cat and mouse as the ones in this story! The mouse was carrying home a hat with pretty pink bows, which it twisted off a doll for its mother, when it met the cat.

"Give me the hat with pretty pink bows," said the cat. The mouse answered, "No, it is for my mother. It will be its birthday tomorrow and if I give this hat with pretty pink bows to you, I will have no present to give it, because I was planning on giving it this hat." So the cat asked the mouse to stop and rest a while, and it die. After a nice rest, the cat ate the mouse and took the hat.

"The mother mouse saw this and thought it unfair for the cat to take it, so it went to the cat and suggested that they go and find someone to decide a suitable punishment for the cat. The cat agreed and off they went." Why did the cat agree? I do not know. You should ask the door.

"We must not forget about the princess. She is in the story too. She is playing with her ball.

"The mouse and cat met a duck. 'I took a hat that would have been this mouse's tomorrow, had I not taken it. What do you think would be a suitable punishment?' asked the cat.

"Quack! Quack!" said the duck, and hopped away. Its wing was busted when a king carelessly shot an arrow in it while hunting and it did not work properly anymore. What does a duck know about hats anyway? And it does not even speak English, it speaks French. I think "quack" is the French word for "slavemonger." So they continued, because they had not yet found a good punishment for the cat.

continued on page 10

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More Inside World

from page 9

"The queen and king of the country were dead. They were riding in a cart-like thing that kings and queens like to ride is when they go to visit relatives. Someone dug a hole in the road to remove a weed that was growing out of a crack in the road and the cart and horses and people fell in the hole and broke up into a large number of tiny pieces like toothpicks. It is not important why the weed was there-only that it was. A fence looked in the hole and said, 'The king and queen and cart and horses are busted up into pieces like little toothpicks.' Soon everyone in the kingdom knew because fences can not keep secrets.

"This is an exciting story isn't it?" asked the door. Is it? The column and the chimney did not answer and the birds said, "Tweet! Tweet!"

"The princess became the queen," continued the door, "and she was playing with her ball with bright red dots on it.

"The cat and mouse came to a dog house and there was a dog in it which is not surprising, because dogs often live in dog houses. 'This cat took a hat that would have been mine tomorrow. What would be a suitable punishment for it?' asked the mouse. 'Go to the queen and ask her. She studied laws and the teacher gave her the highest grades.' So the cat and the mouse went to the queen's castle.

"We want to see the queen," said the cat, for it was the louder one, and the guards who stood nice and tall by the door might have been partly deaf and might not have heard the mouse. The guards let them in and they went to the queen. 'I took this hat with pretty pink bows that would have been the mouse's tomorrow,' said the cat, 'What would be a good punishment?'

"The queen thought and thought, but she could not think of a law about the punishment for a cat who took a hat with pretty pink bows that would be a mouse's tomorrow in the law books, because she had not read the books. So she decided to pretend to know a just punishment for the cat. 'Give the hat to the mouse tomorrow,' she told the cat. Everyone thought it was a wise decision the queen made, and there was a celebration with a lot of food, but the cat could not get any food, because it was on a table, where food should be put, so people do not have to bend down to reach it." Do you know that grandmother can not bend down to touch her toes? It's true! But I should not discuss that now- I am telling a story, remember? "So the cat ate the mouse, but it accidentally ate the pretty hat too, but we must not feel sorry for it, because it got the hat in a dishonest way."

The door stopped telling the story because it was asleep. "That was a boring story," said the column. "That was a boring story," agrees the chimney.

So now you have heard the story of the door, column, and chimney.

Ruddock

Alright, this is supposed to be slightly tasteful since the Pre-Frosh are here. Not entirely tasteful, of course, because that would be lying, just slightly tasteful.

Nasty rumors are running rampant around Ruddock. For instance, there's the killer date between Andy and Nancy and the candle between them (for atmosphere, ya, that's it, atmosphere). How cute, Greg says. Lisa was finally observed removing her face and exposing the Fembot Circuitry enclosed within. Certain members of the house were observed exerting over four tons of force with their bare fingers, much to the displeasure of housing. Bike storage now available in the PGR. Tommeroo bailed on Wolfgang and moved in with a 25 year old female grad student from Princeton. All this and brains too? Upon hearing this, Munir jumped at the opportunity to move in with Wolfgang. Come again? I'm sure he will. For Puerta Vallarta Vacation Holidays, contact Dan Chen to use his Love-Condo on the Beach. Celia clipped her bird's wings, but not as closely as Cathy clipped Milton's.

Off-campus exodus because of Board. Need I say more? "No kidding man, that's why I'm moving off" says Greg again. Shit, not just off campus, but to non-institute housing even. Random Blare of the Week: "I am not a fish!!!" Random response of the Week? Hey, what goes around, comes around. Speaking of which, last week's social event was a splashing hit. Thanks to the MOSH for letting us have the pool party, it was greatly appreciated by the over-worked masses. This Saturday is the Graffiti Party with Lloyd and Blacker in Lloyd courtyard. Tell me how it was, I'll be at Model United Nations in Seattle.

Well, this is Duppy taking over because Nik is too busy playing with power tools. The frosh are renting movies at a phenomenal rate. I think they finally learned the definition of pass/fail. And now its time for -

Top Ten things Pre-frosh always wanted to know but were afraid to ask.

10. Why is my host still asleep at noon?
9. Why is everybody in Math lecture a pre-frosh?
8. Do Caltech students really go to Magic Mountain every Friday night?
7. What does RF stand for anyway?
6. Why do Caltech parties always have to have stupid names?
5. Is the Inside World really an accurate portrayal of life at Caltech?
4. If so, what kind of warped people attend this fine institution?
3. What does it mean when she laughs and walks away?
2. What's so important about The Ratio anyway?
1. Is Ditch Day really tomorrow?

-Jaded and Cynical

Ricketts

Since this paper is going to be read by the PreFrosh, I guess we should extend to them our welcome to our beautiful campus. Hope you enjoy our stay here and that you return in the Fall for some real fun. While you're here, we hope you get ample opportunity to talk to people around you in order to get a good feel for the place. Of course you'll have to visit our 3H Coffeehouse. It has edible food and a whole lot more. The 3H's, by the way, stand for Hip, Hop, and Happening (something Dirt Grunge is).

The Ultimate Frisbee Discobolous Game last Saturday went okay against Page. Our massive subless (it's true, no submarine sandwiches were given to us during the game, but that's not what I'm referring to!) team was beating Page 5-4 for a while, but then the Page Boys (Not to be confused with the Pep Boys) started getting a bit red under the collar. Being the good sportsmen that we are, we let our opponents win and a good time was had by all.

****News Flash ***

For those of you who haven't heard yet, there's a limited time offer from B&G to sod undergraduate rooms. Your room will first be plastic coated to protect the rug and bedsheets and then lovely, rich, full sod will be layed down. Imagine! Thick green grass of your very own to lounge around in 24 hours a day! Now how much would you pay? But wait, there's still more!! You also get a steak knife set, a potato peeler, an aluminum ring set with real diamelles, AND a solid gold plated necklace straight from the gold bullion. Yep! All this can be yours for the low, low, low, LOW price of \$19.95. To demonstrate this lovely offer from B&G, our fearless president agreed (??) to have his room beautifully remodeled with fresh sod. What a sight it was! Remember just call 1-800-MORE-SOD now, our operators are standing by. It's a great gift for those people you always find really tough to buy for.

And now back to our regularly scheduled program.

Some visitors around Ricketts who are not Pre-Frosh this week are Laura's two cousins Kim and Becky. We sure hope they are having a Jim Dandy time here (Sorry Becky, you can't come here to major in art).

Another thing I want to make sure people know about is that Ben Johnson doesn't take drugs. It's poeple like Carl Lewis who spike his beer and whiskey shots before a race that give him a bad name.

By the way, 5 people won that contest concerning a certain item of clothing Christina Garden was wearing on the night of Interhouse. Yep, they were pink and the tell-all photographs probably won't get printed in the Tech so you'll have to trust the Contest Committee on that call. The prize for the most interesting entry was given to a student who wishes to remain anonymous. His/her entry was "Purple with gold stripes and silver speckles and peppermint flavoring". Boy, what a weird one!

That about does it for me. My lovely writing companion has her mind in a temporary holding pattern, so she wasn't able to write anything witty this week. I keep on telling her to eat her Wheaties, but she just doesn't listen to me. I'll try to get her mind unstuck next week.

-Boob

Lloyd

Wednesday, 4/12

Dear Diary:

That date last night with David was a disaster. Well, it'll be nice to get away for the weekend. I've got to get up early tomorrow morning. The plane for Los Angeles leaves at eight! Will it be Berkeley, MIT, Stanford, or Caltech? I'm really psyched about visiting Pasadena. I've heard the nightlife is really wild! Southern California, here I come!

Good night, Diary!

Thursday, 4/13

Dear Diary:

Well, I'm here! What a long day! At the airport, I was met by some Caltech students. For some reason, I could recognize them right away. Maybe it was their pocket protectors...

With so many guys here, it was kind of like Christmas. Christmas in Ethiopia, that is. There was some kind of meeting with the Resident Associates which was interesting, but the best part was afterwards, when the eight male RAs were kind enough to stay and warn me personally about "glomming". There was some interesting gossip, too, something about the Associate Mosh being pregnant. What's a Mosh? I never found out.

Breakfast at eight tomorrow. Good night, Diary!

Friday, 4/14

Dear Diary:

I never saw so many HPs in my life! During the morning we went to all sorts of neat-o keen presentations. Yawn! At lunch, a Dixieland band played. Double yawn! Southern California is a lot smoggier than I expected. They say there are nearby mountains to the north, but...

Finally, dinner time came. I was so hungry. We ate at a place called the Coffeehouse. I was told that it wasn't where students normally ate, and that the food service, "was unbelievable." Wow! That sounds pretty good!

There were two choices in after-dinner entertainment. We could go to Magic Mountain, or we could see Mary Poppins. The choice was clear. At Magic Mountain, I finally got to find out why people say that California is a great place. Colossus and Revolution were both really awesome roller coasters. My roommate got sick on Free Fall. I had lots of fun! We had to leave at midnight, though. I guess people around here don't stay up so late. Caltech must be a pretty great place, though, if everyone goes to Magic Mountain so often.

I'm soooo sleepy. Those talks... 'Till Tomorrow, Diary!

Saturday, 4/15

Dear Diary:

When we woke up for breakfast at nine, we were all alone. All of the Techers must have already left, because we didn't see anyone in the halls. We ate breakfast at the International House of Pancakes (IHOP).

Not much to say today. There was a barbecue this afternoon, and a pretty cool party in the Lloyd dormitory courtyard at night. I was kind of apprehensive, because I heard that a lot of people get drunk at college parties, but it turns out that I was able to avoid any serious drinkers. I met a lot of awesome people, and had a really great time.

I barely made it back to my room. It felt like I'd been dancing for hours. I couldn't believe how many guys wanted to dance with me.

Gotta get some sleep. Good night, Diary!

Sunday, 4/16

Dear Diary:

Back home already. Was I really there for three days? Do I really have to go back to high school tomorrow? Is cold fusion a myth? Anyhow, even with all of the fun I'd had, I don't feel like I really got a sense of what Caltech is like. If I could go again, I'd like to concentrate more on the people there, rather than the planned activities. I'm sure that would give me a better impression of what the school is really like. But for now, I think I'll be there again in the fall; perhaps to stay.

Oh, I almost forgot! No sooner had I gotten home, when Amy called and told me that Bruce had asked Marda to the prom, and that ...

-Found by Curt Hagenlocher and Garrett Choi

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You wanna have some kicks? Lets see if we can find that researcher guy then get ourselves shot with a couple of those tranquilizing darts.

Dabney

So Langdale wants me to water this down, eh? Well, I'm not. For more bitching and moaning on that subject, see "Letters to the Editor" (if I get printed).

So (as I hear the story) the Mojo party went great. Mojo is "a great performer" (Jeremy Lyons), gets "two thumbs up" (Siskel and Ebert) and "played quietly" (Danny Rintoul). So everyone thinks that we got our 15-30 cents per second worth, depending on whose time estimates you consult. Of course, it's Louis' fault that Mojo didn't play longer. If Mojo could have had his bag of nitrous on stage, he would never have stopped playing.

We held the Roompick that Broke the Freshman Conspiracy last week. I knew that if I persisted long enough, I could get a double as a single. Speaking of freshmen, if any Dabnifrosh reading this hasn't turned in his/her pink card, today is the deadline!

Well, I guess it would be repeating the obvious to say what the social event is this weekend: sitting around looking at one another while all the prefrosh are off at Magic Mountain. Of course, we could all go the Admissions-Office-Certified-Clean-Movies, "Mary Poppins" and "Sneetches". Go out and corrupt a prefrosh this weekend, everyone!

Requisite Crude Reference to Body Part: I have grown toenail.

Requisite Personal Verdict: I thought that moved to what would be end of something in Dabney House. Boy, Susan taught how and now.

ed with cries (at of "You bastards Prot. she lea. from J.

at. All he asked to change in front of him into the he bought for her—or at least that.

ow the story came to me. An s not forget the screams (audible out the Sync lot) from room 15. Fortunately,

if you missed them, a tape of "Jennifer's and Mike's Greatest Hits" will be played on Sunday night.

Remember that "Ask Uncle Dave" is the Inside World topic of next week, so keep those cards and letters rolling in!

-Darbed Wire

Enough silliness from me, for now we have...

Dabney Crossword Puzzle, #1

By Brian Lemoff and Don Finnell

<p>Across</p> <p>1. EPCOT, to Lyle Scheer</p> <p>5. Joe Beckenbach?? (hint: If I perceive it, I experience it)</p> <p>9. Dumped CMU for CIT</p> <p>10. Paul looks like an _____</p> <p>11. 60 mod 60</p> <p>13. Charge, in God's units</p> <p>14. Flame in France</p> <p>15. Do this by next Friday</p> <p>16. Wilde's department</p> <p>17. A painter's son</p> <p>20. B.L.'s slinky</p> <p>21. What Benzene just never said</p> <p>22. What Paul does when there aren't any worms around</p> <p>26. Escher _____ everywhere.</p> <p>27. A former Pres.; or what to say after farting</p> <p>29. "Dieu est _____."</p>	<p>Brian Lemoff</p> <p>31. Pectorial piano man</p> <p>32. With 11 down, Dave Edward's taxonomical classification</p> <p>35. Dave Edwards's karyotype</p> <p>36. Author of "The Physical Universe"</p> <p>38. You, the reader</p> <p>39. S&M</p> <p>41. Bone in Bordeaux</p> <p>42. Todd thinks he's _____ but instead he's dumb.</p> <p>43. A Psychadelic Bang</p> <p>48. Decibel</p> <p>49. An integrated Gaussian</p> <p>50. Stanley after missing three easy shots</p> <p>Down</p> <p>2. What Michael Gates never did</p>	<p>3. A club for Carlos</p> <p>4. With 'i', the newest Alley Fiver</p> <p>5. What Alan Knutson always did</p> <p>6. A brand of tampon</p> <p>7. Ignacio, eg.</p> <p>8. A busy beater</p> <p>9. Brian L., to Norsemen</p> <p>11. See 32 Across</p> <p>12. Manufacturer of storage media</p> <p>13. A space cadet who thought he was a thought admiral.</p> <p>14. "Fists of Fury"</p> <p>17. One of Kevin Nelson's predecessors</p> <p>18. Smarter than Stan Chen</p> <p>19. What Keith Jackson did to Dean Brettle</p> <p>20. When waiters eat</p> <p>23. How Paul addresses Don</p> <p>24. "Fuck you,</p>	<p>_____, Jon McGill</p> <p>25. Susan Howard's favorite syllable</p> <p>28. What Mike Greenblatt didn't get</p> <p>30. Paul's mental equivalent</p> <p>33. Follower of Ma Don</p> <p>34. "Fuck you, R.H., J.M., and</p>	<p>D.H.</p> <p>37. Birthplace of P.R., A.G., and A.D.</p> <p>39. A scalar field</p> <p>40. He uses the women's rest room when possible</p> <p>44. Chris 'n' _____</p> <p>45. Home of CIT</p> <p>46. The Wease</p> <p>47. Skelton's title</p>
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Passover Observance

Passover observance this year is april 20-27, 1989. The first and second Seders are on the evenings of April 19th and 20th. Any Jewish students who wish to have Seder dinner with a family in the community should call the Pasadena Jewish Temple Office at (818) 798-1161.

Passover Seder at Caltech

Celebrate the Passover holiday at Caltech's annual Seder on Wednesday, April 19 at 6:30 pm in the Athenaeum. Hillel Rabbi Michael Perelmuter will lead a traditional service and a Kosher meal will be served. Cost: Caltech undergrads and grad students—\$7.00. Post Docs and Faculty—\$10.00. For reservations, call Louise at 447-2003.

Want To Play Games?

The Caltech Gamers meet in Clubroom 1 of Winnett Student Center on Friday nights at 7:30 pm, and on most Saturdays and Sundays at 7:00 pm. Friday night gaming is mostly Warlock, a fantasy role playing game designed years ago by Techers. Saturday and Sunday games include Champions, Cosmic Encounters, Arkham Horror, British Rails, Empire Builders, Power Play, Nuclear Escalation, Wizard War, Illuminati, Naval War and many others.

Pasadena Women's Conference

On Saturday, April 22nd, Pasadena's 12th Annual Women's Conference will take place at the Pasadena Center Conference Building, 300 E. Green. The conference, which includes speakers and workshops (such diverse topics as "Human Sexuality" and "How to Care for Your Car") costs \$10.00 general admission, but only \$3 for students. Registration at the conference is from 7:30 to 8:30 am. Workshops begin at 9:15 am, and the proceedings finish up by 4:30 pm.

Cinematech

This week's Cinematech movie will feature Akira Kurosawa's 1970 film *Dodeska-den*. In the great master's first color film, bold, bewitching color images weave together fantasy and reality to tell the story of a group of Tokyo slum dwellers. As a mentally retarded boy sets out one morning on his daily run of an imaginary electric train through the slum, the strength and folly, love and hatred, comedy and tragedy of human spirits are beautifully painted. The film will be showing on Saturday, April 15th at 7 and 10 PM in Baxter Lecture Hall. Admission is \$1.50 for all. (Show you pre-frosh that there is culture at Caltech.)

Kung Fu Classes

The Chinese Martial Art (Kung Fu) classes are now on Tuesday and Thursday night, 7-9 pm in Winnett Lounge. Our goal is to learn self-defense, to build self-confidence, to develop power & flexibility, and to improve mind-body coordination. The class will be taught by Master Liplin Aug and his pupils. Master Aug studied in Shaolin Temple in southern China, and has been training for forty-five years and teaching for twenty-five years. Classes are in a variety of styles at beginning and advanced levels. New students welcome. For information, call Chong Chen, x6859, or stop by the class.

Come and Dance

with the Ballroom Dance Class every Monday, starting May 1, in Dabney Lounge from 4:30 to 5:30 PM. Learn the Waltz, Foxtrot, and the Swing! Signup in the Y.

Aviation Film

In conjunction with H161, 'American Aviation: Images and Realities,' Frank Capra's 1926 film *Flight* will be screened on Monday, April 17th at 7:30 PM in Baxter Lecture Hall. The film tells the story of 'Wrong Way' Lefty who joins the Marine flying corps to forget about his embarrassing football career and ends up in a revolutionary uprising in Nicaragua. Admission is free and everyone is welcome. An informal discussion will be held after the film for those who are interested.

Women Student Leaders

The Fifth National Conference for College Women Student Leaders will be held June 1-3, 1989 at the George Washington University in Washington, D.C. Over 350 women student leaders from around the country will meet to explore their leadership styles, develop their leadership skills, and discuss issues related to women, both on their campuses and beyond. For more information and how to participate, see poster on bulletin board outside Nancy Matthews' office in the SAC (Rm. 64).

Conversational English

While you were on vacation, a ten-week conversational English class began at the Lake Ave. Congregational Church. Do not despair, latecomers are welcome. Beginning class, Tuesday & Thursday, 1-3 pm. Advanced class Tuesday, 1-3 pm. A \$5 registration fee is requested for the entire term. The class might be of interest to anyone for whom English is a second language. For further information, call (818) 795-7221, x327.

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Entry-level position for development of design automation modules and utilities programs for use in design system. Platforms include Sun, PC, VAX, Daisy, and Mentor. Familiarity with design automation software and methodologies preferred. BSEE required, MSEE preferred.

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Develop control microcode for our 32-bit VLSI processor. Should have at least 4 years experience in microprogramming of pipelined processors or related products.

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Take charge of laying out complex VLSI circuitry in our advanced sub-micron CMOS technology. Should have at least 4 years experience in MOS/CMOS layout.

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CMOS Circuit Designers

Develop highly-advanced CMOS circuitry for our VLSI products. Should have at least 4 years experience in MOS/CMOS circuit design of memory or logic products.

Floating-Point Subsystem Engineers

Join our floating-point design team which will break the performance barrier in floating-point arithmetic. Should have at least 4 years experience in logic or circuit design of floating-point math co-processors or related products. Familiarity with the IEEE floating-point standard preferred.

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what goes on

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

ULTIMATE!

If you are an undergrad or grad student and enjoy tossing a frisbee, please join the Caltech Ultimate Machine. We will practice at 1 pm on Saturday afternoons on the CIT football field starting April 15. Also, there are pick-up games every Tuesday and Thursday night at the football field, starting at approx. 6:30 pm. No experience necessary! Questions: contact Eric Hassenzahn or Chris Hurwitz at x6170, Blacker House.

Turbulence Talk

Y Noon Updates will present Dr. Paul Dimotakis in an informal talk on current research in turbulent mixing and combustion at noon on Wednesday, April 19 in Winnett Clubroom 1. Open to everyone. Refreshments served, bring your lunch.

Career Development News

We've got information on the Sports Careers Conference 1989. The dates are May 11-13 in Phoenix, Arizona.

San Francisco State University is now accepting applications for the Rehabilitation Engineering Training Project. Two options are available: a 19-unit Graduate certificate or a 50-unit Master of Science in Engineering. Only 5 students will be accepted and the application deadline is June 30, 1989.

Denmark's International Study Program (DIS)—University of Copenhagen is once again sponsoring semester study programs in International Business. For those of you interested come by the office.

Folk Concert in Winnett

The Caltech Folk Music Society presents Sally Rogers & Howie Bursen on Saturday, April 15 at 8:00 pm in Winnett Lounge. Rogers and Bursen are nationally known for their exquisite harmony singing, and for their appearances on Garrison Keillor's *A Prairie Home Companion*. General admission tickets are \$7 in advance, \$8 at the door, with \$3 off for Caltech students.

AIR TALK

On Wednesday, April 19 from 6-7 pm, KPCC-FM will broadcast the next program in the series: *AirTalk: The Caltech Edition*. The show's guests will be Ellen Rothenberg, associate professor of biology, and Geoffrey A. Blake, assistant professor of cosmochemistry. Dr. Rothenberg will discuss her research into the mysteries of T-cell construction and the human immune system. Dr. Blake will outline his work on the development of instrumentation that will help to bring many of the exotic chemical reactions that occur in interstellar space right into the lab for study.

In addition, as part of the regular feature *The Caltech Almanac*, Dr. Judith Goodstein focuses on "Origins of JPL."

The program will be re-broadcast eight hours later, from 2-3 am on April 20.

1989 Camp U.C.C.'s

The Deans are interested in hearing from you if you would like to attend Freshman Camp as a U.C.C., and have not already been chosen. Submit a brief written description of your unique qualifications (campus activities and why you want to go) to the Deans' Office (102 Parsons-Gates) by Monday, April 24th. We hope, with your help, to add to the diversity of the Camp experience for freshmen.

Gay/Lesbian Discussion Group

The gay and lesbian discussion group meets every first and third Tuesday of the month for the academic year in the Health Center Lounge at 7:30 pm. If you have any questions, please contact Dr. Kahl, x8331.

Free Ojai Festival Tickets

Tickets to the Ojai Festival have been donated to the MOSH Office from Paco Lagerstrom's estate. There are 2 tickets for June 4; 2 for June 3 and 1 for June 2. If you are interested please come by the MOSH office.

Housing Lottery Deadline

Don't forget to turn in your pink Lottery Participation Card if you are planning to participate in the new lottery system for your fall housing. The deadline date is today, April 14, 1989. Pink lottery cards are to be turned in at the Master's Office.

Health Center Health Fair

The Caltech Health Center, in conjunction with Student Affairs, will be hosting its 1st Annual Campus Health Fair on Friday, April 21 from 12 noon to 4 pm on the Winnett Patio and inside the Winnett Lounge.

All are invited to attend. There will be lots of informational handouts, free samples and healthy refreshments. Plan to attend to have your cholesterol checked, vision screened, or body fat tested or just to relax for a few minutes listening to music and people-watching.

Also, we're looking for anyone interested in helping out. We need volunteers from 10 am to 2 pm. If you can come out for a few minutes to help out, please call the Health Center at x6393.

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Flying Club and Flying Wing

The Caltech/JPL Flying Club will hold their spring general membership meeting on Tuesday, April 18 at 7:30 pm in 201 East Bridge. In addition to holding elections for club officers, Ted Coleman, author of *Jack Northrop and the Flying Wing: The Real Story Behind the Stealth Bomber*, will be speaking. Coleman, a Caltech graduate and retired Northrop Vice President, will give a short talk followed by a video tape. Also speaking will be Max Stanley, the primary test pilot for the Flying Wing. The Caltech/JPL Flying Club has five airplanes based at El Monte airport. The club also has a number of instructors available for primary or advanced instruction. All club members, prospective members (both pilots and prospective pilots), and others are welcome to attend. For more information contact Jim Kaufman, x3807.

A Clockwork S.P.E.C.T.R.E.

"What's it going to be then, eh?" There was me, that is Eric, and my three droogs, that is Dave, Richard, and Loopy, Loopy being really loopy, and we sat in the S.P.E.C.T.R.E. Biblio making up our rasoosocks what film of ultra-violence to viddy at the next come-together of S.P.E.C.T.R.E. (Wednesday, April 19, 1989—Clubroom B/Rm. 15 of SAC—19:30). Afterpeering our moloko with a malenky bit of drencrom, O my Brothers, your Friend and Humble Narrator creeched out to Bog And All His Holy Angels, "A Clockwork Orange!!!" "Horrorshow!!!" creeched my three little droogies, "Horrorshow!!!" And it was so. (Also: *The Prisoner*—"A Change of Mind") Be viddy-ing you, O My Brothers...

New Improved Condoms

The Health Center has responded to student complaints regarding the quality of the Prime condoms we were previously stocking. We now supply "Ramses Extra", which have been rated highly in a recent *Consumer Reports* magazine article comparing condoms. Ramses Extra are latex condoms lubricated with nonoxynol-9 spermicide, and are available in the men's and women's restrooms in the Health Center, free of charge.

Free condoms are also available from the Health Advocates, Master's Office, North and South complex basement laundry rooms, Catalina apartment recreation building restrooms, and MJ house laundry rooms.

Developing A Business Plan

On Tuesday, April 18, Dennis R. Smith, a successful entrepreneur and businessman, will be speaking on the topic of business plans. The talk will follow a dinner at the Athenaeum, starting at 6 pm. All undergraduates and graduate students are invited to attend free of charge. Sign up in the Caltech Y offices or call extension 6163.

Student Film Awards

NISSAN is sponsoring the Thirteenth Annual Student Film Awards. Awards range from \$4,500 in Narrative, Documentary, Animated/Experimental Films to smaller awards for other film related topics. Competition deadline is April 28, 1989. Get a complete set of rules from the Humanities Department or at rooms 38 and 64 of the SAC. Otherwise, write to: FOCUS, 10 E. 34th St., New York, NY 10016; or phone (212) 779-0404.

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Don Shepard Fun Fund

The Don Shepard Fun Fund is now available for undergraduates beginning 3rd term. It has been expanded to include, in addition to dinner at a "fancy" restaurant, cultural events such as ballets, classical concerts, operas and plays. A sign-up sheet will be posted on the bulletin board in front of the Master's Office from April 3rd through April 19th.

Don Shepard Essay Contest

The Don Shepard Essay Award contest is open to all freshmen, sophomores and juniors. Three \$300 prizes will be awarded.

To qualify for one of the prizes you must submit an essay (around 500 words) typed, or neatly and legibly written, describing a program for your social and cultural enrichment, whether it be buying books or records, taking lessons, or traveling or sight-seeing.

The contest will run from April 1 to May 15, 1989 and you may bring your essay to the Master's Office during that time. Winners will be announced the week of May 15th.

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, May 19, 1989.

Business Today Essay Contest

Business Today, the largest student-run magazine in the nation, is sponsoring an essay contest. It is their hope that this contest can bring students to share their ideas with influential people who can effect change in the Nation's problems. The first place winner receives \$1000 and a 2-day all expenses-paid trip to New York City. In New York, she/he will have a chance to share ideas with two or three important executives. Second and third place winners will receive \$250 each. If you have more questions, call Craig Sherman, Editor-in-Chief, (609) 921-1111, or come to Rm. 64 SAC to see the literature we received on the contest.

Summer Counselor Applications

Applications are now available in the Master's Office for undergraduate students who are interested in being a Summer Counselor for the Summer High School Program. The remuneration for the position is a free room for the summer program period from June 25 to August 25, 1989. The deadline for students to submit an application to the Master's Office is April 17th.

Summer Housing Sign-Ups

Sign-up sheets for on-campus summer housing will be posted on the Master's Office door beginning May 17, 5:00 pm. Students wishing to live off-campus, in unaffiliated housing, must sign-up at the Master's Office beginning May 23rd. Houses will be notified when summer contracts are available.

Scholarships On Parade

The Financial Aid Office has applications and/or information on the following scholarships. All qualified students are encouraged to apply. Our office is located at 515 S. Wilson, second floor.

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

The Planetary Society offers a variety of scholarships and awards. Students may obtain details of our programs by filling out and mailing in a postcard (available in the Financial Aid Office). Deadline is April 15.

The American Petroleum Institute will grant scholarships to students with permanent residency in Kern County. The awards are to be used to further studies related to the petroleum industry. For more information, contact the Financial Aid Office. The deadline for applications is May 8.

The National Italian American Foundations offering various scholarship opportunities to assist Italian American undergraduate or graduate students. Deadlines vary through May.

Applications for the 1989 *Japanese Government (Monbusho) Scholarship* for third year American students (U.S. citizens) specializing in Japanese studies are currently available at the Consulate General of Japan. For more information, contact the Financial Aid Office. The deadline for applications is May 5.

The Automobile Hall of Fame is committed to contributing to the welfare of the industry by providing assistance to graduating students interested in a career in the automotive industry. Two programs, the Outstanding Scholars Program and the Hall of Fame Resume Bank, are designed to attract promising students. The deadline is May 31.

Caltech Merit Awards

Each year the Scholarships and Financial Aid Committee awards a number of Merit Awards to the most academically talented of the Institute's Freshmen, Sophomores and Juniors. 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 41 Merit Awards at \$9,000 or \$11,600 each. This year Awards will range from \$9,700 to \$12,300 each.

Applications are available in the Financial Aid Office at 515 S. Wilson. The deadline for submitting completed applications to the Financial Aid Office is May 12, 1989.

Western Americana Show

The SAC has discount tickets for the Great Western Fair's International Wild West Western Americana Show, May 5, 6, 7. The Fall show date is scheduled for November 3, 4, 5. The show features wild west themes: rough riding cowboys, civil war association, knife artisans and more. For discount tickets and more information come to SAC 64 or 38.

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