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THE CALIFORNIA TECH

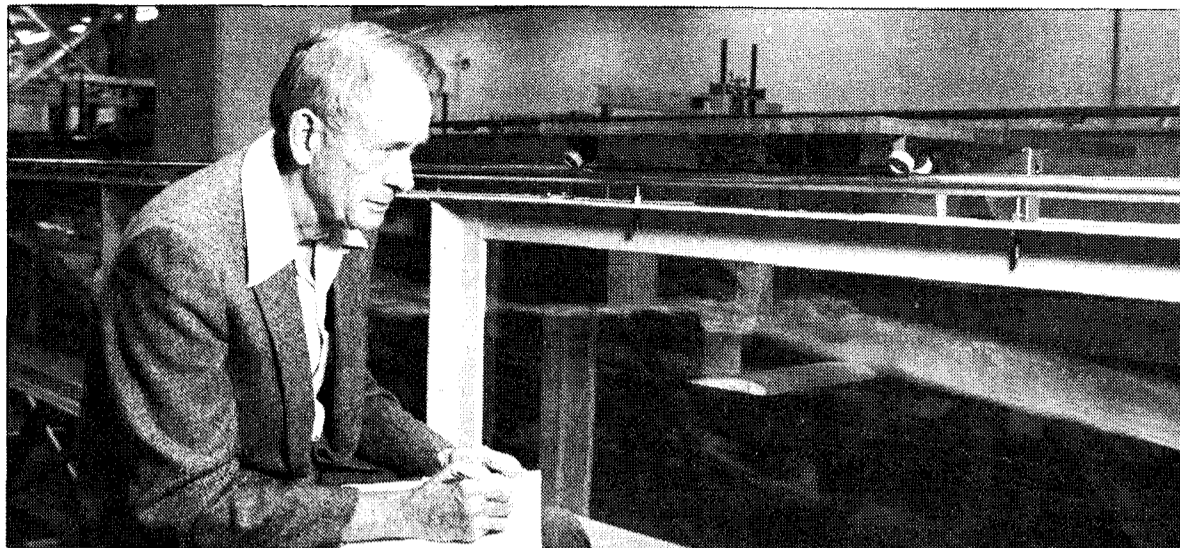
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Caltech photo by Herb Shoebridge

Dr. Francis Clauser intently examines the flow around a foil. Could stuff like this win the America's Cup?

Innovating the America's Cup

[CNB]- The entries to the America's Cup race, widely touted as the latest in state-of-the-art sailboat design, contain only minor and timid improvements, according to engineering professor Francis H. Clauser.

"I am amazed at the great difference between the hyperbolic claims of 'high-tech' innovation that appear in the press and the design of actual yachts now contending in the waters off Perth," says Clauser. "The designers of most of these yachts are outspoken proponents of the 'two percent school,' who claim that all it takes to win the America's

Cup race is a two percent advantage. I am convinced that improvements of tens of percent are possible."

Clauser describes his efforts to design a truly high-tech sailboat in an article in the November 1986 of Caltech's *Engineering & Science* magazine, to be published November 17, 1986. These designs include such radical departures from sailboat design as pontoons, ailerons, and underwater probooscises.

Clauser, an internationally recognized expert in aeronautics and the Clark Blanchard Millikan

Professor of Engineering, Emeritus, at Caltech, served as chief scientist for the Newport Harbor Yacht Club's *Eagle* Challenge, and he developed and tested a number of innovative designs. In April of this year the *Eagle* syndicate made a heroic effort to raise the \$1 million it would take to build a new boat incorporating these designs. However, by May it became clear that there was no chance of meeting this goal and the syndicate decided to focus its efforts on completing their conventional boat. At that time Clauser

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The Space Adventure: Ride Describes Past, Future of the Shuttle

by Glenn Tesler

Sigma Xi's Los Angeles membership induction ceremonies for 1986 featured a presentation by Sally Ride on "The Space Shuttle," in which she summarized the history of the US space program and described in detail her second flight into space. The flight, in October 1984, was remarkable in many respects. The seven member crew was larger than any previous shuttle crew. It consisted of five astronauts, two of whom were female, and two payload specialists. The captain, Robert Crippen, was on his fourth flight.

Once in orbit, experiments began, some of which were of a highly technical nature, and others of which were the result of not being used to life in low gravity. A three hour spacewalk on the fifth day allowed two crew members to demonstrate the feasibility of satellite refueling in space. Satellites must carry their own supply of fuel to allow for periodic adjustments in their orbit when they deviate too much from their proper position, and the ability to refuel satellites could greatly extend their useful lifetime. The refueling experiment did not actually involve a real satellite, but consisted of connecting different tanks carried in the payload bay to prove that astronauts could make such connections in space and that the fuel would transfer properly. The spacewalkers also repaired an external antennas on the shuttle. Though spacesuits are not required for those astronauts inside the shuttle, they are required for those who are on walks. Space suits have a liquid cooling garment along their inhabitant's skin, and other forms of temperature and atmospheric control. They also allow for radio contact with other spacewalkers, the shuttle, and mission control. They have a small food supply, and can function for seven hours straight. Spacewalks can be done

untethered, though very thin wires attached the astronauts to the shuttle in this one.

A satellite was launched on this flight after being lifted from the payload bay with the robot arm. The robot arm was also used to remotely repair an antenna in the payload bay that had gotten stuck and could not be folded back up.

In addition to these official experiments, the astronauts conducted many of their own as they learned to cope with low gravity, and recorded many of these on film. Cooking meals was an unusual task. Each astronaut had a set of food trays with preprepared meals, and one astronaut was assigned to heat the trays for each meal. Consumption of the food was a bit difficult, as it, like most everything loose on the ship, would not stay where it was put. Even the astronauts couldn't always maintain their position in the ship.

Use of the bathrooms was not shown in the film. The toilets functioned by replacing gravity with suction, and according to Ride "you only forget to turn on the suction once."

The only means of exercise on board was a treadmill. Although one week is not enough time to lose significant quantities of calcium, which provides support to bones, longer flights in the future will have to address the issues of calcium loss and exercise more thoroughly. Even on earth, the bone's supply of calcium is constantly used, but as there is not much need for bones in the low gravity of space, the body does not generate replacement calcium there.

The flight was the second to land at Kennedy Space Center. The space center was built on a wildlife reserve, and is surrounded by alligators. Thus, Crippen had a lot of incentive to do a perfect landing, in which the contact of the shuttle with the ground was imperceptible

to the astronauts. The shuttle landing is performed without engines, and is done in a manner analogous to the landing of a glider.

Ride, who was on the Presidential Commission to explore the Challenger disaster, said that most astronauts, including herself, would fly on the shuttle again once

Watson Lecture: Health, Not Heart Attacks

by Glenn Tesler

The Earnest C. Watson Caltech Lecture Series' second lecture featured Jean-Paul Revel in "Heart Attack! Tactics for Sick Tictocs!" Each year, 1.5 million people in the US have heart attacks; 75 percent of these people get to the hospital right away and have an 80 percent survival rate, but those who don't get to the hospital soon enough have only a 5 percent survival rate. The heart pumps blood through a network 60,000 miles long; if it fails to supply oxygen to the brain, the brain will become unconscious within five seconds, and will be irreversibly damaged within nine minutes.

The heart primarily consists of four chambers: the right and left aortas, and the right and left ventricles. Blood enters through the right atrium, is pumped through to the right ventricle, goes on to the lungs to pick up oxygen, and passes through the left aorta and ventricle before being circulated. Each cell within the heart is capable of beating by itself, but when adjacent cells touch, their beating becomes synchronized by the formation of specialized connections called gap junctions. All the cells in the heart are synchronized via pacemakers: the sinoatrial node causes the atria to beat, and the atrioventricular node causes the ventricles to beat. Normally, beats occur at the rate of 72 per minute, but unhealthy

hearts may beat too fast, too slow, or irregularly. Further, the pacemakers may fail altogether in synchronizing the beats of the whole heart, causing a condition called fibrillation. This condition may sometimes be corrected by use of a defibrillator, which gives a fibrillation victim a large electric shock in an attempt to stop the beating of all the cells, so that the pacemakers can start them all anew simultaneously. The timing of the shock is very important, and advances in equipment are on the horizon which will allow defibrillators to detect the ideal moment to apply the shock, thus allowing nonspecialists to use them in emergencies.

Heart muscles primarily consist of thick actin and thin myosin filaments. These fibers slide along each other to produce contractions. As heart cells are strung together in large quantities, the small contraction of the individual cells results in a large net contraction. During a heart attack, the mechanisms that supply the energies for these contractions fail due to an absence of oxygen. This causes unhealthy tissue to beat out of synch with the healthy tissue, causing fibrillation.

Research into the nature of heart attacks, ways to prevent them, and ways to save victims, is progressing rapidly. Some heart at-

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a series of repairs, new designs, and improved safety and testing programs are implemented. She does not believe that the planned February 1988 launch of the shuttle is optimistic, as any glitches in the implementation of new programs will delay it.

Sally Ride was born in Los

Angeles, received her Ph.D. from Stanford, started her astronaut training in January 1978, and, in a June, 1983 flight of the Challenger, became the first woman from the United States in space. She is also a member of Sigma Xi, the organization that sponsored her presentation.

California Scientists Angered

NSF Research Center Site Unfairly Chosen

by Dave Lomax

When the National Science Foundation awarded the State University of New York at Buffalo a \$50 million National Earthquake Research Center rather than UC Berkeley, a great uproar was heard from California scientists.

Paul C. Jennings, chairman of Caltech's Engineering Department, discovered about 50 lines of text in the SUNY Buffalo proposal which were apparently copied from the California proposal which he had co-authored. Also allegedly plagiarized was material written by Caltech professor Wilfred Iwan.

California senators Pete Wilson and Alan Cranston have succeeded in having the NSF decision investigated by the Government Accounting Office and the NSF is also conducting an internal investigation of the matter. Neither of these investigations have as yet been completed.

"One of the allegations is that the evaluation committee for the recommendation of the center was not qualified for the job in the sense that they were not experts in the field of earthquake engineering which was the field of the center," said Jennings.

"Another one was that the procedures on when the decision was made were inappropriate. Essentially, the decision had been writ-

ten up before they visited California. In fact, they had made up their minds before they came."

Iwan, chairman of the California Seismic Safety Commission, wrote a letter to the NSF on behalf of the commission in which he stated: "I fear that this decision may, unfortunately, result in substantially higher losses of life and property in the next U.S. great earthquake than would have been the case. We can only hope that this earthquake will be slow in coming."

This concern can be attributed to the fact that it will take some time for Buffalo to assemble up-to-date, state of the art equipment and a staff of seismologic experts, both of which are already available in California.

However, according to professor Jennings, the real issue is the integrity of the peer review system, which is used in most granting of funds to institutions. "The primary qualification for funding research should be the quality of the research and not political considerations or geographic considerations or anything of that sort.

"The basic issue is to try to do things right without making the peer review process even more political. The people involved in the earthquake program think that political actions were already very strong in this thing, certainly from

the New York side, but they don't want to further aggravate that problem in trying to correct it."

Since there are such a large number of earthquakes which occur in California, some Californians may think that seismic activity is particular to this part of the nation, but that is not true.

"The seismicity of the eastern U.S. is much less than that of the western United States, but that doesn't mean that earthquakes don't occur there. In historic times, there has been a series of three big earthquakes in 1811-1812 in the Missouri area and there was a large earthquake the size of the San Fernando earthquake or the Coalinga earthquake or the Long Beach earthquake or maybe a little bit bigger in Charleston, South Carolina in 1886.

"Because the east is older, and the buildings are older and they're not as well constructed as the buildings out here, for earthquakes of a given size, you can expect to occur even more trouble in the east than here. They're not as well prepared as us in a number of ways.

"The geology of the eastern U.S. is such that earthquake waves carry further so that some of the more distant effects carry over much larger distances than they do in the western U.S."

LETTERS

Newsworthy News

To the Editors:

I am writing to you regarding the Cross Country article "Caltech Pizza" which was printed Friday October 17, 1986, and written by "Speed Demon". It was a shock to read such an article in your newspaper, which mocks the true values of what journalism stands for. A writer must uphold the duties by performing with intelligence, objectivity, accuracy and fairness. I believe these responsibilities have been neglected.

A reader is interested in reading newsworthy news backed up by facts, not an opinionated rag sheet. (Opinions should be kept in columns and editorials.) A college newspaper must distinguish opinion writing from reporting, this I feel was not done in the article when Demon stated "La Verne usually tries to gain an advantage by having the opposing teams guessing 'which way we go,' at every turn." Are these facts? No, they are not. Then why print them. Do not abuse the power or privilege our fore fathers fought so hard to have. As a college newspaper your purpose is to publish unbiased accounts and seek to uphold the finest standards and ideals of journalism, particularly being devoted to the truth, accuracy and fairness.

As a journalist, I feel these responsibilities are lacked by you, who let an article such as this be printed and by your staff writer who wrote it. Why abuse the power of the press. A college newspaper must uphold the true qualities as other college newspapers have done in the past and continue to do now.

Thank you,

-Anita Garcia
Features Editor,
Campus Times

University of La Verne

The editors reply:

Dear Anita,

Thank you for your concern, and for telling us where to put our opinion. Have you read any other of our fine sports articles? Have you read any such stories in, say, the L.A. Times (by, say, Jim Murray, to drop a name)? If so, you may have noticed that sports articles generally do not hold to the

standards of journalistic integrity and complete unbiasedness kept up by the rest of these great papers. Thank God. They'd be awfully boring otherwise, don't you think, Anita?

Anyhow, we suggest that you try to calm down a bit. Maybe getting away from the Campus Times for a little while would help. Maybe you could even take some grammar and writing classes in the interim.

Love,
Jens and Josh

Teaching Quality

To the Editors:

Though I recognize the validity of David Rutledge's and Mark Fischman's criticism of the TQFR, I would like to defend its continued existence. Of course in a perfect world, student evaluation responses would show equal weighting to good and bad comments, but as we all know, the dissatisfied students are the most vocal. I recognize this skew in the data, as I think most readers of the TQFR do, and can still obtain some useful feedback from the evaluations. I think that a completely independent, student run, course evaluation is worth the intrinsic flaws. I encourage students to speak out. Learning how to get one's message across without offending is part of growing up. Course evaluations are one way for students to speak out on issues very important to them.

I agree with David Rutledge that the most useful, and constructive, criticism is private and specific. However, providing feedback to instructors is only one function of the TQFR. The other is to provide some information to other students on instructor quality, something personal private comments from a student to an instructor can't provide.

There is a deeper issue here, though. University faculty (almost without exception) receive no formal training in how to teach. One makes the transition from graduate student to faculty/instructor by the conferring of degrees and titles. No special classes are provided. Graduate students receive a lengthy introduction on conducting research, but only in exceptional circumstances do they get any guidance in the process of teaching. By the time you are hired as an

Assistant Professor, how could there possibly be any gaps in your education? In contrast, teachers for elementary or high school are required to take a substantial number of courses in how to teach.

So the cycle of teaching being subordinated to research at U.S. universities continues. It is a cycle I believe strongly should be broken. I have read fairly widely in how to teach, and I continue to learn more. I also know that I have more to learn about teaching, and I welcome any opportunity, formal or informal, to do so. I could imagine that a one quarter course for incoming junior faculty taught by teachers of teachers would pay enormous dividends, both in attenuated TQFR complaints, and more importantly in our ability to discharge our teaching duties.

Sincerely,
-Erik K. Antonsson, Ph.D.
Assistant Professor of
Mechanical Engineering

Ec Time, Kids!

To the Editors:

Regarding Hasok Chang's letter regarding Huy Cao's letter regarding David Bayer's talk regarding Nicaragua, I'd like to beat the matter to death a little more.

The thing that bothers me is that Mr. Chang seems to think we can't understand what "monopolistic corporate capitalism" (MCC) is. Of course we can! We're Techers, aren't we? I won't take long; I'll do it now.

"monopolistic": A company has a monopoly in a market if it is the only seller in that market (I remember that from Ec 11).

"corporate": A corporation is "a body of persons granted a charter

legally recognizing them as a separate entity having its own rights, privileges and liabilities distinct from those of its members." (That's from my roommate's dictionary.)

"capitalism": An economic system where the market sets the prices, and ownership of production and distribution is concentrated in private hands (as opposed to the government).

Putting all this together, MCC is an economic system where single corporations totally dominate the various markets. Does this apply to the U.S.? Well, when I shop at the Pantry, I can buy milk from three different companies, and I can buy cereal from Kellogg's, General Mills or Nabisco. If I don't like the Pantry, I can leave and go to Ralphs. As I walk to Ralphs, I see Great American, Crocker Bank, Bank of America, Security Pacific Bank, and so on. When I go to buy a car, I can buy a GM, Ford, Toyota, Volkswagen or Hyundai. (Note that monopoly has nothing to do with the absolute size of the company; it has to do with the size of the company relative to the size of the market.)

So, when someone says that the U.S. is characterized by MC² they either haven't been paying attention while shopping at the Pantry, or they have not used "monopolistic" in a precise economic sense. Rather, they have used "monopolistic" to just mean "bad". By using the word "monopolistic," a simple prejudice is disguised as an objective conclusion of economic analysis. This fine literary device is familiar to anyone who has written a paper. It's called Bovine Excrement.

Whether you agree with me about U.S. corporations or not,

remember: don't let the words people use fool you. When someone says to you: "It may be that the praxis of feminine deity centered world views, both monotheistic and polytheistic, has a considerable ameliorating effect on the aggressive instincts inherent in all humankind, male and female," you can figure out what he means, and whether he is bogus or not.

-Sean McNamara
Ruddock House
578-9696

Noise Annoys

To the Editors:

Okay people, listen up!
What's that, you can't hear me?
Just a sec.

Hey you over there with the chainsaw! Shut Up!

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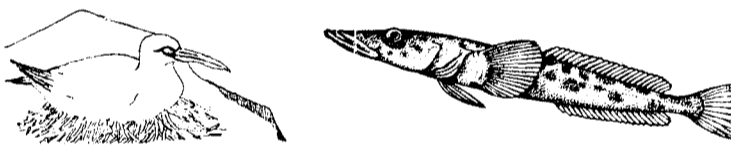
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The Inside World

Blacker: Well, the Black Pyramid was half-erect (like D.C.) by late Wednesday and nearly finished by Thursday night. The percentage scale is rising. We may actually hit 50% by Saturday night. Remember, though, that only unwary travellers from the other Great Houses (being six and separable) should wander through the maze. (The pyramid is structurally stable. Really.)

On a much more serious note, though: The Church and Hovse of Blacker, the two being one and inseparable, has been invaded by Satan. He first appeared last week, and has since been damning the soul of a certain unwary Mole. However, three very subtle saints of the Blacker Church have made it their task, nay, *mission*, to exorcise this evil demon and return the Hovse to its state of purity. Saints be warned: Satan is easily alerted to such activity, so be **Fucking Discreet!**

—Betsy the Frosh

Dabney: Hello there, you darling Techers you! It's me, the old Dabney Gossip Queen, and have I got some tidbits for you! I know what you've been thinking — all the little boys and girls in Dabney Hovse sit quietly in their rooms and do their homework. Ha! What could be farther from the truth! Sure, the upperclassmen are laying low. They've been around a few times. But the froshlings! Darling, this has got to be the least inhibited freshman class since the Visigoths! Even as you sit on your little tushies and read this, hearts and maidenheads are being broken, lives are collapsing into piles of smoking rubble — and there's even a bit of hanky-panky going on.

Details? All right, you horny devils, you asked for it: Thirty-five! That's right, room thirty-five, home of Caltech's swiftest threesome. Come on, you guys, whom are you kidding? Of course we know what goes on when none of us are looking, eh Chris? Yeah! This reporter isn't afraid to name some names for a change! Steve! Just what were you hiding under that collar the other night? And Jennifer! Doll! What's your secret? Come on, just a hint. You guys! Unreal.

But wait! You want controversy. How's this: Hovse President. More? OK: junior high school. Tim! Baby! We know who we are, don't we? Lucky we live in a liberal state, but frankly honey, if you're planning to go any farther than you did last weekend, you'd better move to Denmark! (I'm gonna get it for that one, but he knows I love it.)

And Kerin and Mandrew! Chill out, guys, we're on to you! Hey, Todd! Not you, the other one. Grad students read this stuff, you know! Whoa! This boy don't know when to quit! I better hoof it now, ere the nasty lynch mob shows up! It was delicious as always, kids! Ciao, belli! Love ya!

—Le Tramppe

Fleming: Well, it looks as if that old saying is true: "You can't argue with an editor, especially in his own publication." Thus I won't argue that there is no such word as *anarchous*. Or *anarchus*, for that matter. But there are such words as *anorchous* and *anorchus*, according to Webster's Third International Dictionary of the English Language. The unabridged version, of course. Thus, the way I see it, I got *creodonts* wrong once and right once, and *anorchous/anorchus* right both times (which is not at all obvious after a bit of creative editorial spelling correction). Eds., on the other hand, spelled *anorchous/anorchus* wrong once apiece. Score that Fleming 2, Eds. 1, I should say.

[*Touché. Lessee. . . added to last week's score, that leaves you and us tied with two each. What a game! Let's all show up next week when the Eds. do battle against William Safire and Edwin Newman! Now back to Fleming. . .* —Eds.]

Enough of that. It looks as if the Big Red Machine has a reasonable chance of going completely undefeated in Interhouse Sports this year. Naturally. Especially if we beat the boys in soccer on Thursday. As of this writing, the

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LETTERS

from page 2

Okay people, listen up! It has come to my attention that Caltech is a noisy place. Have you ever been disturbed by noise here?

At least once a week for the last two years my sleep or work has been interrupted by one of the following machines:

- ① Leaf blower
- ② Whisper chipper
- ③ Edger (a.k.a. "concrete cutter")
- ④ Mower
- ⑤ Chainsaw
- ⑥ LARGE portable generator
- ⑦ Garbage truck

I will concede that the grass needs mowing and the trash needs hauling, but chainsaws, whisper chippers, edgers, and leaf blowers should be banned from the campus. These devices have not always been around, and there are no reasons why the grounds dept. needs them to do an adequate job of maintaining greenery here.

Noise here at Caltech must be minimized; great minds cannot think over the din of a leaf blower at full blast. So, if someone is making a racket outside your office, classroom, bedroom, lab, or meditation platform the following people might have the power to put an end to it:

- ① George Mecado, Supervisor for grounds services x4743
- ② Robert E. Fort, Director of Physical Plant x4707
- ③ Housing Office Nancy Carlton x6176 Paul Appel x6175
- ④ MOSH x6194

Sincerely,

Dan Bikle
Senior, Electrical Engineering
360 S. Holliston

Fragility Personified

by Steve Gómez

For the past week or so I've heard stories going around that I'm fragile and delicate. I admit I did break two fingers. They are only sorta broken, a little. Now I'm a little offended by all this "delicate" stuff. I will now set the record straight.

The first bone I broke was my skull. In second grade we had a game where you climbed out as far as you could on a tree limb until it broke. The lower branches were easy, but we eventually ran out. Once while I was on a higher branch it broke like usual, except that it twisted while I was descending. I hit my head on the remnants of a lower branch and the result was a cracked skull, two hundred stitches, and a monk's haircut. I didn't get a concussion, though. I've had four or six. I remember four and have heard about six, but I digress.

It wasn't until fifth grade I fractured another bone. I broke my left arm playing "smear the queer." This is a fine game, a variation of football except the only rule is kill the guy with the ball. Guess what the object of the game is? To be the one with the ball.

In seventh grade I broke my right arm, nose, left thumb, and right thumb. Not all at once. I broke my right arm when I rode my bicycle as fast as I could into the back end of a Winnebago (a large camper with a very large steel bumper).

My left thumb got it when the chain saw I was using hit a nail put in the tree during the Civil War or something. The chain broke and tried to remove my thumb. Luckily, my thumb was only mangled and broken.

In my neighborhood the street gently slopes. When my friends and I were bored we would climb on top of my friend's roof and run down the street jumping from roof to roof. The last time I ever did this a shingle came loose just as I was jumping and I went nose first into

the house next door. The fun part was running my face down the stucco wall and discovering just how many nerves end in my face.

My right thumb was broken upon impact with the asphalt after the bike I was jumping with lost its front wheel in mid-air. Everyone said I looked like Evel Kneivel.

The summer after tenth grade I broke five bones. All at once. I was working on my uncle's ranch and my cousins "let" me ride the new horse. This was an awesome horse (rippling muscles, etc. . .). What I didn't know was that he wasn't broken in. I found out real soon after I got on. He started bucking and I tried to slide forward. As I tried this he reared up and I rolled over his rear. He bucked again, I saw a hoof flash past my face, and found myself hanging in a metal pipe fence. Soon afterward there was this intense pain over my whole body. My lower left rib cage was kinda caved in and the radius of my right arm was bent under the ulna.

I rode the forty miles to the hospital in the back of a farm truck with no shocks. I consumed a bottle of fine Mexican pain-killer by the time we got there. The hospital wouldn't give me any real pain-killers because I was soooo faced. Add four ribs and an arm.

My senior year I broke my left ankle in a cross-country race of all things. In college I've only broken small bones. During a frosh bonfire in Dabney I kicked a sync brick as hard as I could. I moved it about a foot and broke my big toe. Finally we are up to the two fingers I've broken in football. Fifteen total. That's all. . . for now?

I have a theory that there is a law about the conservation of broken bones. Everyone who has never broken a bone owes me a beer. I'm not all that worried about my fingers, so why is everyone else?

Note: I've never broken a bone skiing, but I did break a tree once.

Heart Attacks

from page 1

tacks are of a hereditary nature. Heterozygotes, which are people who inherit a bad gene from one parent and a good gene from the other, often have heart attacks between the ages of 30 and 40. Homozygotes, who inherit bad genes from both parents, often suffer attacks during childhood.

Although limiting one's intake of cholesterol can help prevent fatty deposits from forming in one's blood, and thus reduce the chance of having a heart attack, the human body produces cholesterol if too little is consumed, so avoiding all cholesterol intake is not a viable

means of preventing a heart attack. Not smoking, however, is a good way to prevent a heart attack, as smoking reduces the amount of oxygen that the blood is capable of carrying. Coffee, despite popular rumors, seems to have no effect on the likelihood of getting a heart attack. Consumption of alcohol in small quantities does not increase one's likelihood of getting a heart attack. Advances in technology, such as improved defibrillators, new drugs, and mass production of some of the substances healthy hearts produce to regulate blood pressure and other factors, promise to increase the rate of heart attack survival within the foreseeable future.

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Review:

A Comic Book Takes A Serious Look — Watchmen

by Peter Alfke
Watchmen
 by Alan Moore
 and Dave Gibbons
 DC Comics

Even in this enlightened day and age, comic books still have a bad reputation. This reputation is, to be sure, mostly deserved, but there are several comics that rise above the usual Superman or Teen Titans level, that make a claim for comics as a serious medium. Among these are Dave Sim's *Cerebus*, Matt Wagner's *Mage*, Gilbert and Jaime Hernandez's *Love and Rockets*, and of course Frank Miller's *Dark Knight*, the

revisionist Batman saga that generated much media attention last summer.

But the comic which, in my opinion, is staking the best claim for its medium as comparable to, yet uniquely different from, the novel or motion picture, is *Watchmen*, written by Alan Moore and drawn by Dave Gibbons. *Watchmen* depicts a world that is almost our own, yet even closer to the complete collapse of nuclear war that, it seems, must inevitably occur by the end of the twelve-issue series.

What has brought the *Watchmen* world to this brink is,

primarily, the existence of costumed heroes. Indeed, one of the major aims of *Watchmen* is a deconstruction of the superhero concept. Costumed heroes here appeared shortly after the creation of Superman in the first issue of Action Comics, as some few people read the comic, decided that they too could dress up and fight crime, and proceeded to do so. However, their motives were not always as pure as those of Captain America or even Batman. *Watchmen* is very realistic in its depiction of human nature, and its characters act on human motivations. Some of the crime-fighters worked from a desire to right wrongs. Some did it for publicity. Some just liked beating up people.

By the present time, however, most of these crime-fighters (who have no superhuman powers, just athletic prowess) have had their vigilante activities curtailed by a 1977 emergency act of Congress. Forced into retirement, they contemplate the boredom of their present lives in comparison with their past activities. There are two exceptions, two heroes who continue to work for the government. The first is the Comedian, an amoral chap who does undercover work, toppling foreign governments.

The second is Dr. Manhattan, who is the only true superhero in the series. An accident at an Army research base destroyed his body, yet gave his mind complete control over matter; the body he generally uses is blue and hairless, with a hydrogen-atom symbol on the forehead. Dr. Manhattan's power

is essentially limitless, like that of many conventionally comic-book heroes, but his persona is much more deeply developed. What prevents him from simply doing whatever he wants, turning the world into a utopia? Quite simply, *he doesn't care*. In his omniscience, he is losing his humanity. To him, the only difference between a human and any other object is the arrangement of atoms. He has no sense of time; to him, everything happens at once. He could have prevented the assassination of John Kennedy, yet did not, because to him it had already happened.

In a predetermined universe, he knows every plot twist yet, without conviction, acts out his role. What is this role? Dr. Manhattan has, of course, become the U.S.'s prime strategic military asset. His powers enabled the U.S. to win the Viet Nam war (in this world, Nixon is still President); he also makes a Soviet nuclear attack impossible, as he could with no effort destroy all the missiles in mid-air. The real problems appear when he, disgusted with current events and his own life, leaves the Earth for Mars.

The deconstruction of the superhero myth forms but one aspect of *Watchmen*. Much of the plot revolves around the murder—as yet unsolved—of the Comedian, which occurred in the first issue and is being investigated by Rorschach, an underground crime-fighter who never retired, a paranoid psychotic Batman figure in a mask of shifting black-and-white spots. This murder, and at-

tempts on the lives of other costumed heroes, may somehow be tied in with a shadowy organization based on an unknown island, to which vague references were made by the Comedian before his death. At this point (issue 6), little is known.

Behind the characters and the plot lurks a continual question, the question of evil and what one does about it. Unlike many of the more "hip" of today's comics (particularly the ones inhabiting the magazine *Heavy Metal*), which also depict grim worlds yet seem almost to relish the evil, *Watchmen* does delve into moral issues. Our own world is not in good shape, and the one in *Watchmen* is even worse off, and all the characters attempt in different ways to cope with it. The ravings of Rorschach's diaries ("Dog carcass in alley this morning, tire tread on burst stomach. This city is afraid of me. I have seen its true face.") are those of a madman, and his actions are vicious in the extreme, yet he is attempting in his own way to attack the evil he sees all around him.

The Comedian, on the other hand, is amoral. True to his name, he sees the world as a joke. In Viet Nam, questioned about this by Dr. Manhattan, who asks, "The charred villages, the boys with necklaces of human ears... these are part of the joke?" the Comedian replies, "Hey, I never said it was a good joke. I'm just playin' along with the gag..." Dr. Manhattan himself is stuck in a deterministic view: if everything that happens is fixed, immutable, any attempt to

continued on page 8

Science Fiction:

Yet Another Asimov

by Nick Smith
Foundation and Earth
 by Isaac Asimov
 Doubleday, \$16.95

Well, Asimov has now written somewhere over 340 books. Gee, wasn't it only in the issue of October 3rd that I said he had only written 337? How time flies when you write fast.

In any case, *Foundation and Earth* is one of the longest-awaited sequels in science fiction history. You see, back in the 1940's, Asimov started writing a series of stories that became known as the Foundation Trilogy. That's because only three (out of his planned 12) ever got written. Then he started another series, called the Robot Trilogy, of which he finished two books (a long story). After many years of writing only short SF, Asimov was talked into returning to writing novels a few years ago, and produced *The Robots of Dawn* (the third of the Robot Trilogy), *Robots and Empire* (the fourth of the Robot Trilogy??) and *Foundation's Edge*, the long-awaited continuation of the Foundation series.

So why is *Foundation and Earth* so special? Because it ties a neat little bow around both series, linking together 20,000 years of future human history.

So why didn't I like it? Actually that's not fair. I did enjoy the book. It was slowly paced, but that stemmed from the nature of the piece. The main characters, Golan Trevize (a somewhat renegade politician), Janov Pelorat (a somewhat renegade historian), and Bliss (a woman who is part of a planet-scale unified mind) have to unravel a mystery that someone has spent 20,000 years covering up. For fans of either Robot or Foundation series, this is a good book. The problem was that I found myself strongly disagreeing with some of the major premises of the book.

For any of you out there who have not read the Foundation series, the basic premise is that, if you have a large enough population, and enough data, it is possible to predict the overall trends of the society studied. Not unreasonable, and the main questions are two-fold: 1) where do you get a big enough population, and 2) where do you crunch the data. Since the story revolves around a very large future civilization (planets by the millions) with an advanced technology (abundant supercomputers), both problems dwindle. In the stories themselves, the main problems are those of fine-tuning the predictions, and actually using them for some purpose. Those are what the Foundation stories are about.

In *Foundation's Edge*, the "mass mind" concept was introduced, with an entire planet linked together mentally, from every human down to the last virus. Even the rocks and air get included. The whole point of *Foundation and Earth* is that the main characters have decided that this super-world may be the logical future of mankind. If a one-world unified mind is good, a galaxy-wide one would be better, right? At least they want to make sure, and on a hunch, they decide to find mankind's ancestral home, a sort of decision-quest.

The quest itself is a great story, and I couldn't put it down. It was unusual to find sex, violence and political intrigue in an Asimov story, combined with his usual relaxed storytelling. I liked everything except the ending, along with the stated reasons for the ending's existence. The last few pages read like something from the *National Lampoon* article on how to write good, to wit: They all got run over by a truck. The ending is out of left field and contradicts several points made in the story.

I don't know if even Asimov can write himself out of the corner at the end of *Foundation and Earth*. Maybe by book #400 or so he will have thought of something. I certainly hope so.

* * *

By the way, a cheap theater is the only way to see the new movie, *From Beyond*. It succeeds in capturing the brutal horror of the H.P. Lovecraft work on which it is loosely based, and the special effects are well done, if gory. However, the characters are all 1920's amoral, unscrupulous mad scientists, put into a 1980's setting. The acting is good, but the characters the actors are portraying are cheap stereotypes of the worst type. Too bad. With a little more attention to the script, it could have been a truly classic horror film.

* * *

LOSCON the 13th (in 3-D) is coming to a Pasadena Hilton near you, this Thanksgiving weekend. It features a sales room, parties, a costume display, parties, an art show & auction, parties, talks and panels by lots of SF writers and artists, and a few parties. The guest of honor is John Brunner, and since Larry Niven's wife is running the art show, he may be there, too, along with lots of other big names. Good stuff, and well worth the bucks it will cost you.



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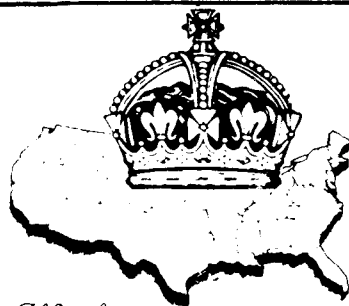
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FEATURES**Play It Again, Kids!**

by Dave Lomax

Listen everybody, off in the distance, can't you hear it? It's... Caltech's instrumental groups? Led by Bill and Delores Bing, music at Caltech is off and running in fine style again this year.

The wind ensemble and two jazz bands are led by Bill, while Delores watches over the 17 different chamber music groups. Over 100 students participate in the music program, but many play in more than one group. There are some faculty and graduate students who also play.

The ensemble and chamber music groups generally play classical tunes and are very serious about music. As Bill says for the jazz bands, "We play a wide variety of styles. One jazz band maybe concentrates a little bit more on swing music than the other jazz band, but we take a pretty traditional approach to the jazz band music and try to always play certain standards such as 'Embraceable You' or other swing tunes that are arranged by Sammy Neseke."

The wind ensemble generally plays five concerts every year including an annual concert for Occidental College. The jazz bands often play in jazz festivals and four years ago the band won the prize for Outstanding Jazz Band in the Orange Coast Jazz Festival. The chamber music groups do formal concerts in Dabney Hall where many people from the Pasadena community come and listen. The bands and chamber music groups will also play for faculty dinners and other such occasions.

"It's really one of the best bargains, I think, around," said Bill, "because we don't charge for our concerts. I think it's such a wonderful thing to be able to go to a concert and not have to pay for it and hear such high quality

presentations of music."

This year, in addition, the bands will be playing noon concerts on the 5th and 12th of December and a concert will also be given for the students on Valentines Day next February.

The groups are not selective about who gets to play in them, just as long as the person is enthusiastic and willing to put in the time to practice the music. Only the Caltech-Oxy Orchestra, directed by Alan Gross from Occidental, requires an audition in order to play. For the jazz bands and wind ensemble, ability only determines which parts a person will play.

In the chamber music groups, it is necessary to separate the good players from beginners since only three or four people play in each group. Said Delores, "There are people who are playing difficult Beethoven string quartets that you could hear if you went to a concert at Beckman and there are others who are very inexperienced. In fact, I even have one sight reading class for people who have hardly ever played chamber music before and we just play different pieces every week just to learn how to play them."

The wind ensemble and jazz bands each practice for only one hour and 45 minutes each week at night while the chamber music groups meet at whatever times are convenient for the members of each group.

"We realize that, as we're teaching at Caltech, nobody here came to study music," said Bill, "so one of the first things we had to learn was to adapt to the student's schedule and realize that if we start making unreasonable demands on the students, then the students aren't going to be able to play in our programs."

continued on page 6



photo by Glenn Tesler

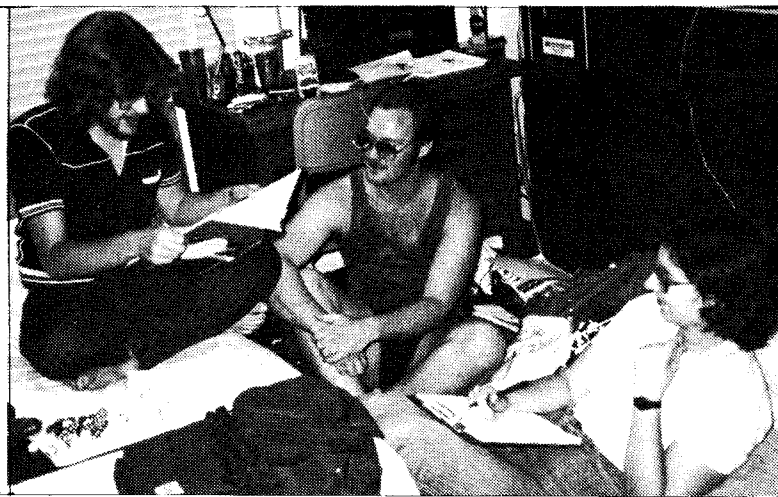


photo by Glenn Tesler

A bunch of the guys lounge around at the Annex. Note their distinctly non-feminine character.

Men Reside in Annex

by Amanda Heaton

The *Women's Annex*? No longer. At the beginning of this term, only one woman had asked to live in the Annex. So, despite the tradition of offering all-female housing on campus, the Master's Office was forced to make a choice. "I couldn't justify leaving nine spaces empty when that might result in not enough housing for other students," Chris Brennen, the Master of Student Houses, said. "So I discussed this with a number of people, and we decided to open the Annex to males."

Currently, almost an equal number of males and females live in the Annex. Senior Trina Juzang, the one female who requested housing in the Annex this year, had mixed feelings about its changed status.

"When I moved in here, it wasn't because it was all women; they put me in here because of a mistake in the housing contract," Juzang said. "Once I lived there for a while, though, I thought it was really nice having a group of women together, because there aren't many women on campus. But then they all moved out, and they put men in here. I don't really

mind, except for the bathroom situation, but it's turned out ok."

Students new to the Annex had varied reasons for staying there. One common motivation, late housing contracts coupled with a desire to stay on campus, led many of the men to choose the Annex.

"It doesn't have the life that a house has," junior Patrick Blaine said. "But it's better than any of the other off-campus houses because it's on campus. So I'm glad I got in here instead of in any of the other places I could be (since I got my contract in in the middle of the summer)."

Other new members saw the Annex as the ideal place to live, with or without men.

"At first, I had a room off campus, and I wanted to move back on campus, somewhere close," junior Jinane Abounati said. "And the only room available was a room in the Annex. But I think it's a very good place—it's a way of being both off campus and on campus at the same time. So when I have a choice, it will be one of my choices. I can get involved as much as I want to [in house activities], but I can stay out as much as I want to. So in that sense, it's off-campus housing. The

condition of the house has to be improved, physically. Then it would be almost ideal."

The Housing Office intends to make physical improvements on the Annex at the beginning of the summer.

"We're going to attempt to give it a face lift," said Nancy Carlton, Director of Housing. "It seems like every year when students move in there there's always problems, so we thought we'd attack it all at once—try to make it a comfortable, nice place for people to live."

The fate of the Annex, in the ideological sense, however, still remains in doubt.

"The Annex is in a state of transition, but I'm not sure in transition to what," Chris said. "It depends on student demand. The few women who did want all-female housing all chose 280 [South Holliston, the all-female, off-campus house]. And none of the incoming students asked for all-female housing."

The women who have lived there, however, generally agree that they would like to have the Annex return to housing only for women.

"I thought it was nice that there was the option of living without guys, there, because it was nice to not have to worry about people making disparaging remarks if you walked around in your bathrobe," said Mimi Zucker, who lived in the Annex this summer. "Also, it gives people a chance to retreat from house social structure. Other people that I know have had problems living in the houses, because people would feel that they had the right to comment on their private lives."

Juzang agreed that she found many advantages to an all-female house.

"I think it's important for women to have someplace on campus to live if they want to, that's not coed," she said. "Also, there are role models around, because you have a lot of women that you can share things with, so when things are really hard, you have someone to talk to. Women are more understanding."

Some men, however, especially from the north houses, also like the Annex.

"I'd like to move in here," junior Chris Bertani, Ruddock, said. "I wouldn't mind having a single here at all."

The final decision, of course, rests with the MOSH.

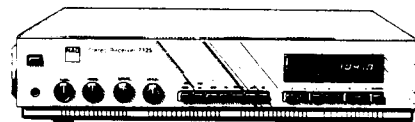
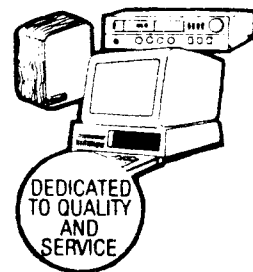
"It seems as though there's been a slow decline in demand for all female housing over the years," Brennen said. "And now, of course, the only all-female housing we have is at 280. But as long as there's demand, we will maintain all-female housing. I've always made sure we had enough all-female housing to meet the demand, and I will continue to do that. I think that it's an important thing."

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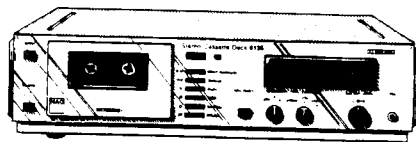
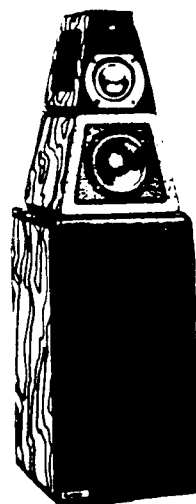
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World News Briefs

- * All E.E.C. nations except Greece agreed on Britain's initiative to apply sanctions, including a ban on arms sales, to Syria, in connection with the alleged Syrian involvement in the attempted bombing of an Israeli airliner in London in April. Britain has severed diplomatic relations with Syria, and the U.S. has withdrawn its ambassador from Damascus. —HASOK CHANG «SOURCE: THE NEW YORK TIMES»
- * The U.N. General Assembly overwhelmingly approved, 122 to 20, a resolution calling for the immediate withdrawal of all Soviet troops from Afghanistan. Similar resolutions have been adopted each year since the Soviet military campaign began in 1979. —HUY CAO
- * After Soviet leader Mikhail Gorbachev claimed that he pulled six regiments from Afghanistan, he was accused of "sham and deception" by the U.S. Director of the Defense Intelligence Agency, Leonard H. Perroots. The Soviets denied any deception. —HUY CAO
- * There has been controversy about West Germany's Chancellor Helmut Kohl comparing Mr. Gorbachev with Mr. Goebbels, a Nazi propagandist. *Newsweek* quoted Mr. Kohl as saying that "[Mr. Gorbachev] knows something about public relations. Goebbels also knew something about P.R.," but Mr. Kohl stated that the quote was out of context. —HUY CAO

Washington's Attempt Backfires

by Maneesh Jain

A decision by the US to send early-warning radar planes to Pakistan has created unpleasantness in Islamabad and anger in New Delhi. The reactions in both capitals were a natural consequence of Washington's attempt to please simultaneously two opposed and mutually suspicious governments.

Pakistan has been making much of its need for an early warning system to defend against incursions from Afghan planes, which it estimates at 650 so far this year, alleging that Pakistani territory has been routinely bombed and strafed. The incursions are however less frequent and quite innocuous.

In New Delhi, Prime Minister Rajiv Gandhi's government protested, arguing that the planes would improve Pakistan's offensive capability. Speaker after speaker in the parliament denounced the U.S. for this decision, stating that it would have an "adverse effect" on Indo-U.S. relations.

This is precisely what Washington had attempted to evade. The

U.S.'s recent policy has been to court India so as to draw her away from the USSR. In keeping with this policy, US officials attempted to reassure India, in vain, claiming that the planes were in an "exploratory phase". Also, it was in connection with Washington's new sensitivity to Indian concerns that the US had asked for American presence (crews) on the AWACS (Airborne Warning And Control System) to be supplied to Pakistan. This suggestion backfired as Pakistani officials emphasized that Islamabad was interested only in acquiring "indigenous national capability".

The difficulties of US officials were accentuated by a well-informed report in the Washington Post that Pakistan has recently made "dramatic progress" toward producing a nuclear weapon, an assertion which Pakistani officials stubbornly deny. As Washington has learned, more subtle and shrewd diplomacy will be needed to satisfy Islamabad and New Delhi simultaneously.

their musical interests," said Bill.

"I've had students show up to concerts without any shoes on," he recalled, "but that's part of the charm of Caltech."

For any interested players out there, Bill would like to invite you to the first meeting of a new Jazz Improvising Class on Saturday from 10:30 a.m. to noon in the Winnett Basement. Come to the meeting or for more information, call Bill at (213) 684-8964.

Music

from page 5

However, Caltech music students are a dedicated lot. "I was amazed that this last week being midterms week, nobody missed any chamber music rehearsals," said Delores. "I really appreciate the commitment they make."

"The reason they're there to play in the ensemble is because they love it and enjoy it and it's a chance to escape from their studies and it's a chance to further pursue

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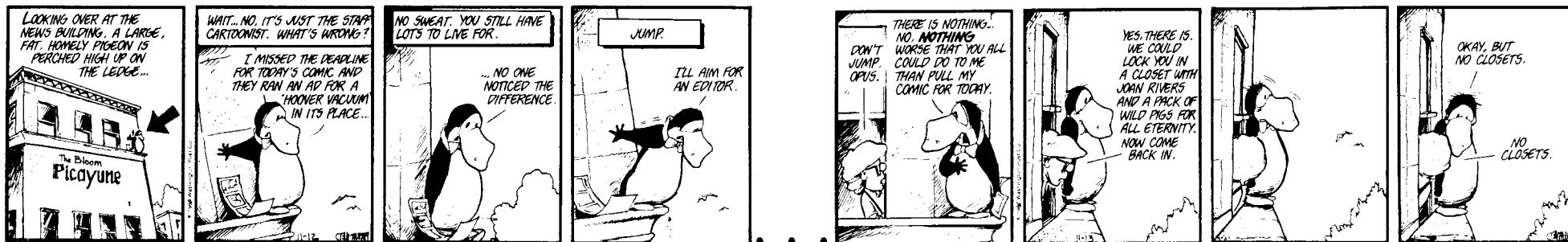
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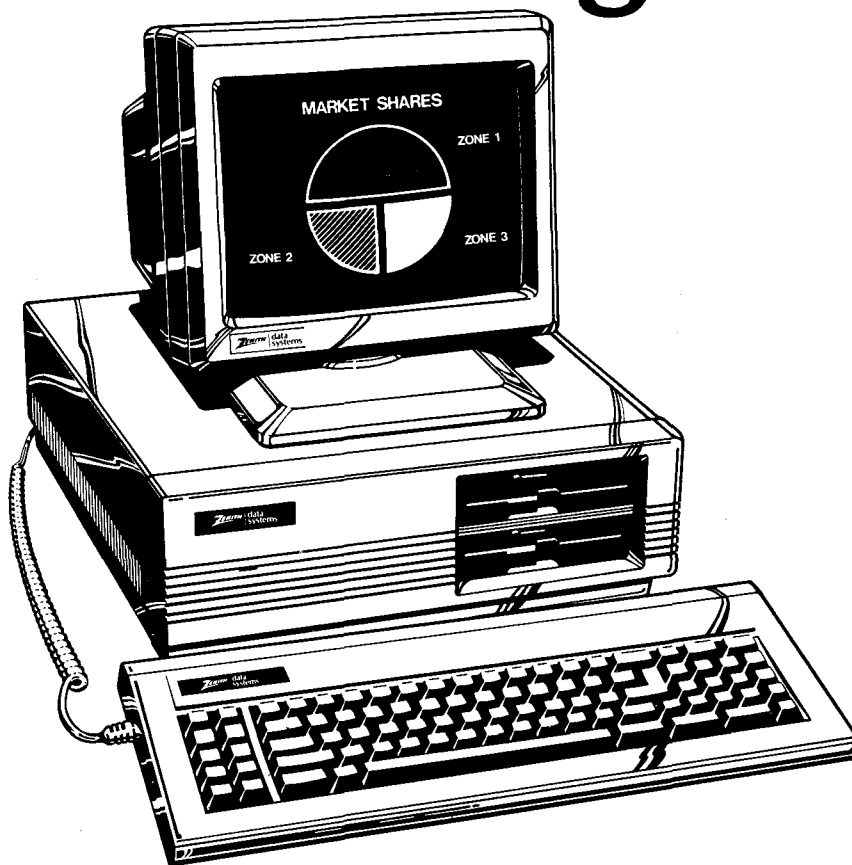
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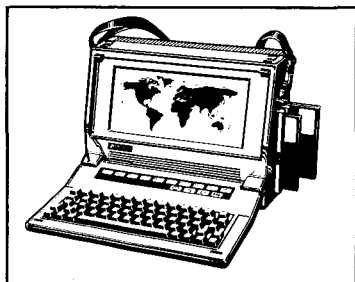
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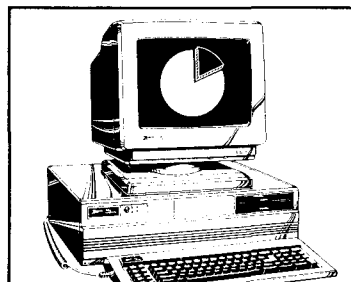
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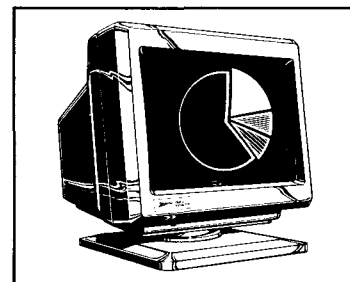
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Zenith Z-241 Advanced PC*
*IBM PC/AT® compatibility
Single Drive
Special Student Price: **\$1,799.00**
Suggested retail price: \$3499.00
Hard Disk
Special Student Price: **\$2,399.00**
Suggested retail price: \$4499.00



Zenith ZVM-1220 Monochrome Monitor
*Less distorted viewing
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Ask about our other monochrome and color monitors.

Special pricing offer good only on purchases directly from Zenith Contact(s) listed above by students, faculty and staff for their own use. No other discounts apply. Limit one personal computer and one monitor per individual in any 12-month period. Prices subject to change without notice.



THE QUALITY GOES IN BEFORE THE NAME GOES ON

*Monitor not included in prices.
©1986, Zenith Data Systems

More Inside World

from page 3

official Ath Team position is "Beat Page? No problem." We shall see. The Darps and the Spudds certainly dropped like flies.

Fleming's best Interhouse showing of recent memory will come to life this Saturday. If it's done, that is. According to Egg, Vasquez and Daniels, oberführer of the Interhouse Nazi State: "Interhouse finished in time? No Problem. That means you, frosh! Hup! Hup! Hup!"

Well, Ultimate Frisbee does indeed seem to be the wave of the future. Not only do we have the traditional "Sunday 2:00PM Court of Man" game, but now there's Monday (and hopefully Wednesday) night's 6:00PM - 8:00PM "Ultimate under the lights" on the football field. We bring 'em in all the way from JPL for those. Everybody else is welcome, too. Do I hear "Intercollegiate Ultimate Team" out there somewhere? Maybe next week.

Until next time, remember: Fleming sux and the Editors walk like Gods across the face of the Earth. [Well, this came in on paper again and we had a bit of trouble with the handwriting there; that last phrase might be "Illegibility is in the eye of the beholder." You figure it out. -Eds.]

-Al Fansome

Lloyd: Happily, no one was offended by our column last week. Interhouse was completed a record three days early. The theme this year: Chicago Museum of Art. Three important works by Seurat are on loan to us for the weekend. All the faucets in Lloyd turned to gold Monday, and to celebrate, we painted each other orange.

We lost to Blacker 43-0 in soccer, but we hope to have a better chance Sunday against the Chicago Bears.

Brian Patterson knocked off two more white boys Monday, bringing his killing spree total to 12. Lev brought up some important and valid political points the other day, and we were all enlightened and appreciative.

Furniture made of living flesh has been installed in the lounge, thanks to the Housing Office. Every one of the Lloydies went to visit Earl at the Coffeehouse every day last week.

Three lone Flem frosh came by and showered everyone on Lloyd, with no help from upperclassmen. Lloydies were so terrified of their superiority, many killed themselves on the spot. We begged Peter Ying to let us lick his shoes clean, but he is of course above this. We now wear black in mourning.

Drink of the week is the Rusty Nail: 1 part lye to 2 parts ammonia, with a dash of liquid bleach, served chilled over broken glass.

-Bob Shore

Ricketts: The wind westward wends through the buildings of Tech, and upon it I ride. Skipping and skating along the Olive walk, I hear the sounds of hammering from both sides of the bricks, and more activity than usual seems afoot.

A vagary of moving air carries me into the Hovse of Ricketts, where power tools cleave wood, and vacuum cleaners roar. Having been here before, I look up and south, to observe once again the majesty and brilliance of the roof of Crud covered with shattered glass, sparkling—but alas, no such beauty is present this day. Looking round, I see plastic covering the entire courtyard and crawling up the walls, and I see frosh leaping out of second floor windows. I even see one frustrated and enraged upperclassman shattering windows in an attempt to fill the lack atop Crud. It looks to me as if these residents of Ricketts Hovse, these Scurves, have gone completely out of their trees. Ironing plastic and building Interhouse, what will come next, a soccer victory?!

Well, the wind would wend west, but that's not the way out, so I journey into dry, dry Blacker, onto the banks of the Nile, awaiting the flood, and the wind is forming these words:

Waiters, dinner's taking too long...!

-Shithead #1 and Giggles

Ruddock!: Yes, back by popular demand... especially from my roommate's mother... the all new and clearly unimproved Ruddock Inside World... Yes, Ruddock House still exists, though lots has happened since Betsy the Frosh last wrote an Inside World. Wayne is now doing commercials for Hormel Chili after his stunning premiere in the 3-5 alley challenge. Alleys 6 & 1 played capture the flag and proved that all's fair in love and war games. Alley standings 4, [Must be a partial score -Eds.]

The Ruddock Software machine finally got in gear and beat Page in discobolus softball last Sunday. Be there this Sunday for discovolleyball vs. Ricketts (probably 2:00PM in the gym). Interhouse soccer this week and next: come and support Big Blue and maybe you'll even get to play. Intrahouse basketball Tournament starts now so if your team didn't get signed up tell Ed "Impressive" Mao Cey tonight.

What else is happening in Ruddock? Manny "the Edge" Aranda's mean streak came out Tuesday night. It was way foamin' funny 'til I ended up answering the phone at 7:00AM the next morning.

Be prepared... Torrance... everyone for the... Torrance... onslaught... Torrance... of old... Torrance, Torrance, Torrance... Rudds this weekend. Just remember you can always escape—the Grand Canyon is only 3 hours away!

Social event this weekend is...? I don't remember... is there one? I guess I'll just get ahead in Ma... Oh yai! Interhouse is tomorrow. Troll Interhouse frosh! Troll Interhouse Rudds. We got Chicago Blues all night, tonight.

-Bets the Frosh and Tan Man

America's Cup

from page 1

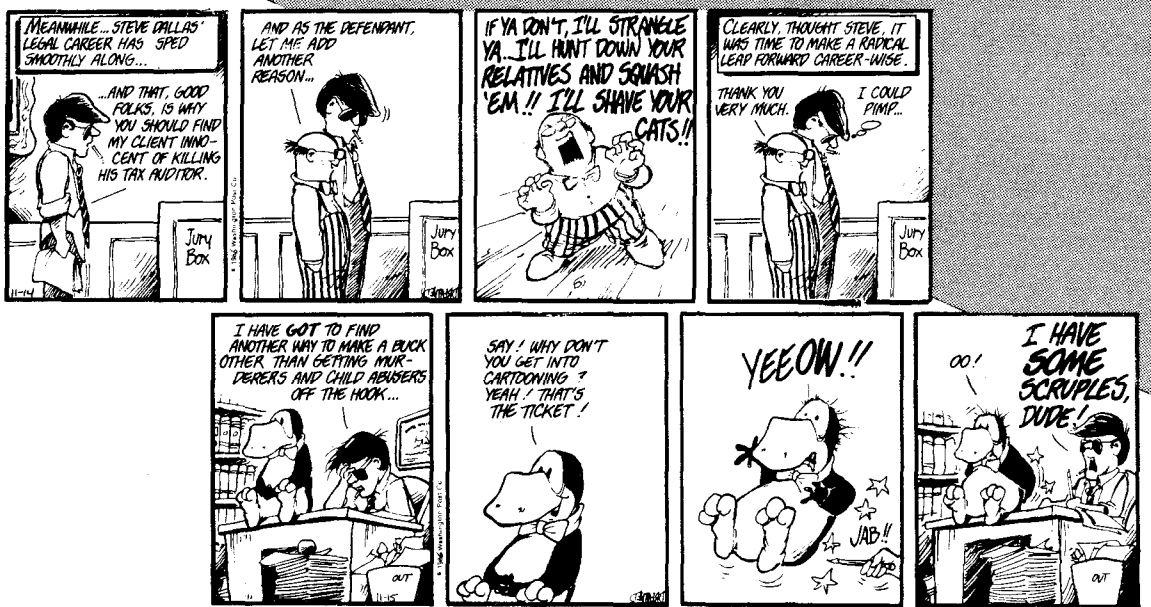
resigned from the syndicate and approached the New York Yacht Club, whose America's Cup entry is called *America II*, and they initially expressed enthusiastic interest. Ultimately, however, the NYYC decided that it was too late in the game to make the radical changes Clauser was suggesting.

Entries to the America's Cup race are required to be 12-meter yachts, but this does not mean that they measure 12 meters from bow to stern. The 12-meter figure is arrived at using a complicated formula that takes into account such factors as the boat's length 7 inches above the waterline, the average distance from the deck to the water plane, and the area of the sail. In addition, there are many other design rules. One, for example, prohibits catamarans and other multi-hulled craft, and another states that below 1.7 meters under

the water plane no width may exceed 3.6 meters.

The formula for 12-meter yachts permits the designer to increase the area of the sail at the expense of hull size: boats with small hulls can have larger sails than boats with large hulls. However, other rules dictate how much lead ballast hulls of various sizes must have in their keels. This ballast is the principal factor that enables a yacht to stand up in heavy winds. Because of these rules, a small hull with a large sail would blow over even in light winds. A larger hull will have greater stability, but would be permitted to use only small sails.

(In this regard, it is interesting to note that Clauser's tests showed that the great advantage of the Australian winged keel, widely regarded as the edge that this boat had in the 1983 America's Cup race, lay not in the hydromagnetic properties of the wings, but in the fact that the keel's shape permitted a lower center of mass.)



Watchmen

from page 4

do anything is nonsensical. And if humans are just miscellaneous collections of atoms, what then are good and evil?

Overlaying these themes, and the plot itself, is Moore's storytelling. A comic consists primarily of dialog, and Moore has a gift for everything from natural conversation to the haunted reminiscences of Dr. Manhattan, who (in issue 4, the best issue of any comic that I have ever read) tells his life story as a foregone conclusion. Gibbons' art, while lacking the technical flash of a Frank Miller or Bill Siencewicz, complements perfectly the realism of the story. *Watchmen* is undoubtedly a visual story; on second or third reading one discovers a myriad of details—clues—hidden in the frames. Headlines from discarded newspapers depict an evolving political situation, billboards show

technical advances and current products; the world is complete and consistent. The combination of writing and art proves most devastating in their extremely literary utilization of the step-by-step nature of comic book panels; there are often two or three sets of narration or dialog going on at once, and these will comment obliquely on each other and on the action taking place in the panel's illustration. For example, in issues 3 and 5 the narration and art of a comic-within-a-comic (a pirate epic being read by a minor character) reflect on the action of the outer story; the demoralized sailor of the story, reduced to barbaric acts after his ship is wrecked, perfectly counterpoints the growing desperation of the news vendor (the first to learn of grim current events) at whose stand the comic is being read.

This device is subtle, clever, and depends utterly on the comic medium. Novels have no such in-

terplay between story and art, and film's action goes by too quickly to fully develop such quick subtleties—*Watchmen* is a comic that demands much rereading for full appreciation.

In its coherence, subtlety and depth, and primarily in its success at developing serious themes, *Watchmen* is unique among today's comics. It has enough action and (decidedly black) humor to please the typical fan of "alternative" comics, yet it will not disappoint the mature reader. Its format is unconventional, and a bit off-putting to those who consider themselves above childish pastimes, but make no mistake: *Watchmen* is a work of literature. It deserves serious attention.

(The first six of the twelve issues of *Watchmen* have already appeared; they are available at comic specialty stores, including Book Village (on Colorado, just east of Hill) and Another World (in Eagle Rock).)

ON CAMPUS Meet Members of our Technical Staff December 2, 1986

Lincoln Laboratory professionals are at the forefront of unique Research and Development efforts across a broad spectrum of advanced electronics technology in projects ranging from component development to the design and construction of complex prototype systems. Every year, many of the finest Ph.D. and M.S. level graduates add their expertise and energy to our international reputation for excellence. We invite you to join them in one of the following areas:

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- Optics and Lasers
- Microelectronics
- Digital Systems Processing
- Machine Intelligence
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WHAT GOES ON

from page 12

Volleyball Tournament

The Caltech Men's Volleyball Club is sponsoring a volleyball tournament between randomly chosen triples teams. The tournament is open to ALL Caltech men and women. There is no fee or advance registration and **AWESOME PRIZES** will be awarded to the first and second place teams. The tournament will be held in Brown Gymnasium on Sunday, November 23. Registration: 8:45AM, Tournament Play: 9:00AM-1:00PM.

AT&T Pizza Party

AT&T will be on campus recruiting for BS/MS in CS, EE and ME. They will be having a Pizza Party on Monday, 1 December 1986 from 4-7PM. You are cordially invited to come and learn more about their job opportunities and about the company.

Cooking Class

Tired of spending your hard-earned money going out to eat? Learn to cook for yourself! This Wednesday, November 19, at 7:00PM in Winnett, Pat Robb will be giving a cooking lesson and demonstration on "weekend survival cooking." Samples of food will be provided. There will be a \$1.00 charge to cover food costs. Sign up in the Y or call Peter Capofreddi at 356-9387 for more info.

New copier!

The new copier is located in the ASCIT office in the basement of Winnett, which is on South master. The price is set at 5¢ a copy. Until copy cards are available, you'll have to put money into a container when copies are made. If you have any questions ask Clea or Bibi.

Medieval/Renaissance Meeting

The Caltech Medieval/Renaissance Society will be meeting this Sunday, the 16th, at 3PM in Winnett Clubroom 1. We will be having a (short) business meeting and potluck, followed by a costuming workshop. For further information, contact Amy (794-2612) or Doug (578-9769).

Foreign Film Series

A Foreign Films Series is scheduled for presentation at California State University, Northridge in the University Student Union, Northridge Theatre. The schedule is as follows:

Nov. 19: *Three Men and a Cradle* (France)

Nov. 26: *Salvador* (U.S.A.)
Admission is \$2.00 for non-students. Tickets are available at the door.

Israel and Palestine

Reverend Darrel Meyers delivers and inspiring presentation of the present situation involving Israel and Palestine. Middle East peace most certainly rests upon the successful resolution of this conflict. "Israel and Palestine: A Conflict of Nationalisms" promises to be the best event of its kind all year. The presentation and subsequent discussion will occur in 24 Beckman LABS at 8:00PM on Tuesday November 18. Reverend Darrel Meyers' presentation is cosponsored by the Middle East study group and the Caltech Y.

All are invited to come and enjoy this truly inspirational and educational event. And it's free, too!

Get Your Big T's!

A reminder to upperclassmen: if you haven't yet picked up your *Big T*, see your house R.A. Make sure you sign for your book when you pick it up.

Drive My Car, But...

Those who use the ASCIT van are responsible, under the Honor System, for reporting any damages, however minor, that occur while they are using it. Also, there is a \$2.50 minimum charge. Try to give Eric Scharin advance notice of when you need the van.

Folk Volunteers?

The Caltech Folk Music Society is looking for volunteers to help set up for concerts, move chairs, transport equipment, etc. In return for your help, you will get free admission to our concerts. If interested, call Rex Mayreis at 793-8775 or write to the Folk Music Society at 138-78.

Noon Update: Project Galileo

Sanford Jones of JPL presents this Wednesday's Noon Update. "Galileo Orbital Manager" deals with subjects involved with the implementation of Project Galileo. Any more said of this event would be telling too much. Except, of course, that it is sponsored by the Caltech Y.

De Karman Fellowship

Information regarding the Josephine de Karman Fellowship is available in the Financial Aid Office, 12-63, and the Graduate Office, 2-31. These fellowships are for seniors and third year or more graduate students for 1987-88. Grants are for \$3,000 for one year and are not renewable. For applications write to:

Fellowship Committee
Attn: Ms. B.J. Brown, Secretary
Josephine de Karman Fellowship Trust
P.O. Box 446, La Verne CA 91750
Application deadline is January 16, 1987.

Noon Music with BUMP

Today's noon concert features BUMP! This new group makes great sounds and will entertain even the most tired and exhausted of Tech students (like me). As usual, the performance starts at noon, and should go for about an hour. Naturally, this concert is sponsored by the Y. Remember your lunch and have a great Friday noon!

Swedish Scholarships

Scholarships for \$500-\$1000 are available for 1986 from the Swedish Club of Los Angeles. Qualified applicants must be full-time university students living in Southern California, of verifiable Swedish descent, strong academic qualifications, economic need, and be U.S. citizens or permanent residents. To apply, send your resumé to:

R. W. Jackson
1250 E. Walnut St., Suite 210
Pasadena, CA 91106
Deadline is **TODAY**, November 14, 1986.

Truman Scholarship

Sophomores interested in a career in government are eligible to apply for the 1987 Harry S Truman Scholarship. Each scholarship covers eligible expenses of tuition, fees, books, and room and board, to a maximum of \$6,500 annually. To qualify you must be nominated. To apply for nomination you must be a full-time student, have at least a B average and be in the upper 1/4 of your class, be a U.S. citizen or U.S. national, and have selected a major related to public service.

Applications are available in the Financial Aid Office, 515 S. Wilson, and must be returned to the office no later than November 14, 1986.

Support Peace In Nicaragua

The National Student Action Center has launched a nationwide petition drive for peace in Nicaragua. To be signed by graduate or undergraduate students, the petition calls for an end to U.S. aid to the contras, support for the Contadora peace initiative, and the resumption of talks between the U.S. and the Nicaraguan government. To sign or get copies of the petition, contact Hasok Chang in Ricketts (1-59), at 792-2659. There are also copies displayed in the Red Door Café.

Chicano Scholarships

The National Chicano Council for Higher Education is offering 20 fellowships to juniors who are interested in pursuing a doctorate and academic career in a science-related field. Each fellow is sponsored for 3 years. Sponsorship amounts vary. Applicants must be Hispanic citizens of the U.S. for further information call (714) 856-6463 or write: Dr. Eloy Rodriguez, Director, NCCHE Science Fellowship Program, International Chicano Studies Program, School of Biological Sciences, TR56, University of California, Irvine, CA 92717. Application deadline is **tomorrow**, November 15, 1986.

MacValley Meeting

The MacValley Users Group announces that its November general meeting will be held Tuesday, 18 November 1986, at 7:30PM in the cafeteria of Burbank High School at Burbank Blvd. and Third St. in Burbank.

Allison Johnson from Living Videotext will demonstrate the outlining and time management program, More.

For more information please contact Ruth Stever, (818)848-1277, or write MacValley Users Group, Box 4297, Burbank CA 91503.

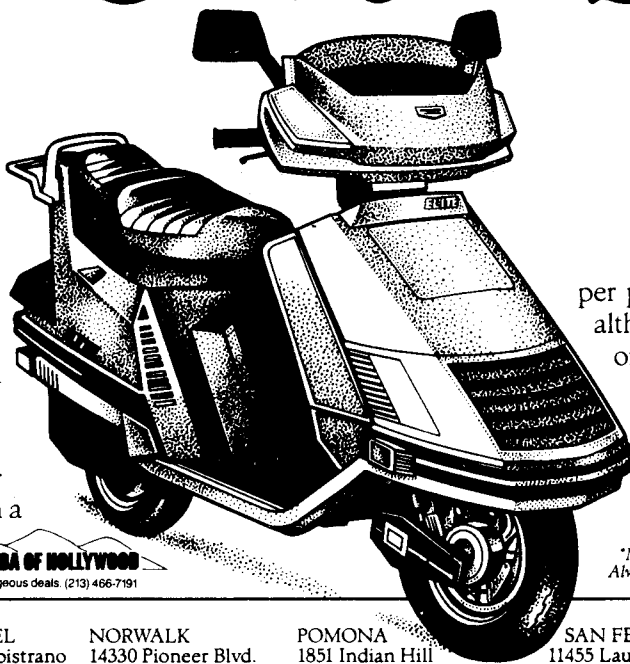
If you know your buns, you could put them on this baby.

Win a Honda Elite™ 150 Deluxe* Scooter from In-N-Out Burger.

Introducing the absolute easiest quiz you'll take all year. And the only one that gives you a chance to win a totally cool, red Honda Elite 150 Deluxe Scooter for getting the right answer.

So, think hard. *How many sesame seeds on an In-N-Out Double-Double bun?*

If you don't know, feel free to cheat. (Cramming is allowed at any In-N-Out Burger location.) Just put your answer on the entry form below (or print all the info on a plain piece of paper) and drop it off at any In-N-Out Burger before midnight, November 17.



You can enter as often as you like but there's just one prize per person. And you don't even have to buy anything, although your stomach will be very happy if you do. Then, on Friday, November 21, we'll draw 6 winning entries from among all the entries with the right answer to our question. And those 6 incredibly lucky college types will be cruising through the In-N-Out Drive-Thru on their very own red Honda Elite 150 Deluxe Scooter. Outrageousness!

*Maximum load capacity 330 lbs. Always wear a helmet and eye protection.

ENTER AT THESE LOCATIONS:

ANAHEIM
600 S. Brookhurst
At Orange

ARCADIA
420 N. Santa Anita Ave.
At Colorado Blvd.

AZUSA
324 S. Azusa Ave.
South of 210 Frwy.

BALDWIN PARK
13766 Francisquito
At San Bernardino Frwy.

BUENA PARK
7926 Valley View
At LaPalma

CAMARILLO
1316 Ventura Blvd.
At the Carmen Offramp

CORONA
114 Serfas Club Dr.
Off 91 Frwy.

COSTA MESA
594 W. 19th St.
At Anaheim St.

COVINA
1371 Grand Ave.
At Arrow Hwy.

DIAMOND BAR
21133 Golden Springs Rd.
Pomona Frwy. &
Brea Canyon Cutoff

FONTANA
9855 Sierra Ave.
Off San Bernardino Frwy.

GARDEN GROVE
9032 Trask Ave.
Garden Grove Frwy. &
Magnolia

HACIENDA HEIGHTS
14620 E. Gale
Pomona Frwy. & 7th St.

HESPERIA
13704 Main Street
Off 15 Frwy.

LAGUNA NIGUEL
28782 Camino Capistrano
At Avery Parkway

LA HABRA
2030 E. Lambert Rd.
Corner of Palm

LAKEWOOD
5820 N. Bellflower
At South Street

LA PUENTE
15259 E. Amar Rd.
1 blk. W. of Hacienda

LA VERNE
2098 Foothill Blvd.
Corner of "D" St.

NORTH HOLLYWOOD
5864 Lankershim
Btwn. Oxnard & Burbank

NORTHBRIDGE
9858 Balboa Blvd.
At Lassen

NORWALK
14330 Pioneer Blvd.
South of Rosecrans

ONTARIO
1891 E. "G" St.
Vineyard at 10 Frwy.

ONTARIO
2235 Mountain Ave.
Off Pomona Frwy.

PANORAMA CITY
13651 Roscoe Blvd.
East of Woodman

PASADENA
2114 E. Foothill Blvd.
West of Craig

PEDLEY
6634 Clay St.
At Van Buren

PLACENTIA
825 W. Chapman
At Placentia Blvd.

POMONA
1851 Indian Hill
At San Bernardino Frwy.

POMONA
2505 S. Gary Ave.
Next to Corona
Expressway

RANCHO CUCAMONGA
8955 Foothill Blvd.
At Vineyard

ROSEMEAD
4242 N. Rosemead Blvd.
At Mission

SAN BERNARDINO
1944 S. Tippecanoe
Off San Bernardino Frwy.

SAN BERNARDINO
190 "H" Street
At 2nd Street & 215 Frwy.

SANTA ANA
815 North Bristol
North of Civic Center Dr.

SAN FERNANDO
11455 Laurel Canyon Blvd.
Golden St. Frwy. &
San Fernando Mission Rd.

TEMPLE CITY
10601 E. Lower Azusa Rd.
Btwn. Santa Anita &
Baldwin

TORRANCE
730 W. Carson
Carson Offramp

TUJUNGA
6225 Foothill Blvd.
At Lowell St.

WEST COVINA
15610 San Bernardino Rd.
At Orange

WESTMINSTER
6292 Westminster Blvd.
At Willow

WOODLAND HILLS
19920 Ventura Blvd.
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There are _____ sesame seeds on an In-N-Out Double-Double® bun.

Name _____ (please print)
Address _____
City _____ State _____
Zip _____ Phone _____
Must be a licensed driver over 18 to win. Decision of the judges is final.

ENTRY

1520

SPORTS



Pile On—The 1986-87 Caltech women's cross country team do the 'Pyramid' warm-up in front of coach Jim O'Brien. On the bottom left to right are Bibi Jentoft-Nilsen, Christina Garden, Carmen Shepard, and Vicki Lane. Dee Morrison, Jarita Holbrook, and Jennifer Low. Miriam Yee, Clea Turf Bures, and Ami Choksi complete the team.

Soccer Wins to Finish

by Joe Pele

The Caltech soccer team wound up their 1986 season with a 1-0 win over Christ College in Irvine. Michael Keating scored the lone goal of the game on a penalty kick.

For the score, Jeff Flint headed a cross-ball toward the CCI net. A defender handled the ball to

bring about Keating's penalty kick.

The Beavers struggled to put together a side for the match. Only nine of the Caltech players had shown up at the gym by the scheduled departure time. Two of the Tech players were rescued from car problems. These two filled out the side to the desired 11.

At the Irvine field Caltech

coach Donald Cameron commented to Tech fan John Beck, "I hope you brought your boots, laddie." Through good fortune, no injuries of sufficient severity brought Beck onto the field.

Paul Cabral did suffer a deep cut on his lower lip, caused by a combination of a CCI midfielder and his own teeth. And Alan Kwentus took a strong shot to the knee. Both of these players are recovering.

WEEKLY SPORTS CALENDAR

Day	Date	Time	Sport	Opponent	Location
Sat.	11-15	8:30AM	Water Polo	SCIAC Championships	Claremont-Mudd
Sat.	11-15	9:30AM	Cross Country	NCAA Div. 3 West Regional	U.C. San Diego
Sat.	11-15	1:00PM	Fencing	Cal State Fullerton	U. C. Santa Barbara
Sat.	11-15	1:30PM	Football	Cal Poly Pomona	Caltech
Sat.	11-15	2 & 4PM	Basketball	Alumni	Caltech
Sun.	11-16	12 noon	Water Polo	SCIAC Championships	Claremont-Mudd
Wed.	11-19	9:45PM	Ice Hockey	C.S.U. Fullerton	Pasadena Ice Center
Fri.	11-21	TBA	Basketball	Christ Col. Invit. Tournament	Christ College
Sat.	11-22	TBA	Basketball	Christ Col. Invit. Tournament	Christ College
Sat.	11-22	TBA	Cross Country	NACC National Champion.	Fredonia State U.
Sat.	11-22	1:00PM	Fencing	Cal Poly Pomona & UCSD	Caltech
Sat.	11-22	1:00PM	Football	Victor Valley JC	Victor Valley JC
Sun.	11-23	12:45PM	Ice Hockey	CSU Northridge #2	Pickwick Ice Arena

Pucksters Fall to UC Irvine

by Jason

Wednesday the Caltech hockey team lost a match to U.C. Irvine at the Costa Mesa Ice Center. The basic problem against Irvine was that Caltech forgot to show up.

The Irvine players swarmed all over the puck as if the Caltech skaters were all on the bench. By early in the second period, the score was 5-1 in the favor of Irvine.

Haj Sano scored the lone Caltech goal, with the assist credited to Pierre Harvey. Caltech suddenly awoke and played well for about eight minutes. Then Irvine scored three goals in two minutes, putting the game out of reach.

In the third period Caltech played much better. Irvine outscored the Beavers by only two goals to one. Phil Askenazy scored the Beavers only goal, and Mike Freeman got the assist. The 10-2 final score is not indicative of the relative abilities of the two teams.

The main problem for Caltech was the inability to get back on defence quickly. This resulted in many 2-on-0 and 3-on-1 situations. Peter Dowd did an excellent job in the net, stopping 44 shots, many at point-blank range.

The next game for the Beavers is at home on Wednesday at 9:45PM against Cal State Fullerton.

FALL SEMESTER

ON-CAMPUS INTERVIEWS WITH LOCKHEED.

Meet America's Top-rated Aerospace Employer.

Talk with our representatives about why in 1985 *The Almanac of American Employers* rated Lockheed second overall among America's largest, successful companies. Tops among aerospace firms. And talk about career opportunities at Lockheed. And about our famed "Skunk Works" facility where we developed the SR-71 Blackbird, an aircraft so advanced, it's still the world's fastest, highest flying airplane in sustained flight.

Just sign up in your placement office and mark this date on your calendar:

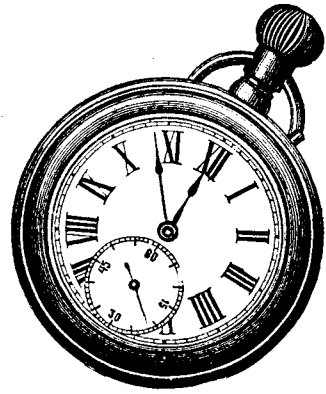
Interviews — November 21

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SPORTS

Football Beavers Top Valley Freelancers

by Mike Lupica

The Caltech Battlin' Beavers are finally getting the attention they deserve. Following a masterful shut-out of the obviously inferior San Fernando Valley Freelancers at Antelope Valley College last Saturday, the undefeated Beavers headed into a veritable media barrage this past week as national news coverage hit the team.

Coming off a big victory over their rivals, the Cal-Poly Broncos, the Beavers went into Saturday's contest looking for another great game. What a game it was! The Caltech Squad racked up fourteen points in the first half against the Freelancers on a TD pass to Daren Casey (TE) from Martin Brouillette (QB) and a TD run by Vince Riley.

The Caltech Beaver Dam Defense continued their unmerciful assault on their opponents. They allowed no scores in this game, making it their third shut-out of the season.

The second half was highlighted by a magnificent 40-yard touchdown pass to tight end Steve "Rosko" Roskowski. Playing with an injured hand from the Cal-Poly melee, Rosko cradled the perfectly lofted Brouillette pass, and he was off to the races. Another touchdown made the final score 28-0.

Whatever may have been true of the team in the past, the Beavers are playing terrific football this season. That may explain why the team has attracted so much attention lately.

Following a feature article in the Pasadena Star-News last week, the team was interviewed on film by the CBS Evening News and NBC News on Thursday and Friday at Caltech. Next week, the Cable News Network will be here to film the grid-iron gang on their home turf.

They all want to know how Coach Lin Parker and his colleagues have created a Beaver dynasty that lays claim to the longest winning streak (19 games) in the Southern California area. The players are excited about the publicity but remain steadfast in their desire for acknowledgment from Caltech's own students and faculty.

Big Bowl Game

In keeping with the festivities of Interhouse Weekend, this week's home game against the Orange County Cowboys is the annual BEER BOWL. Hordes of midterm-enraged fans are expected to soak up the free suds and enjoy

the game. The Cowboys are the biggest team the Beavers have faced all year. Across the offensive line, they average 250 pounds a man, outweighing by far the streamlined Caltech team.

Coaches and players predict a hard-hitting, take-no-prisoners game, as the Tech Team attempts to extend its unbeaten streak to twenty games. This suits the Beavers just fine: they've been playing and winning like that all year long!



Exotic, Erotic Errata

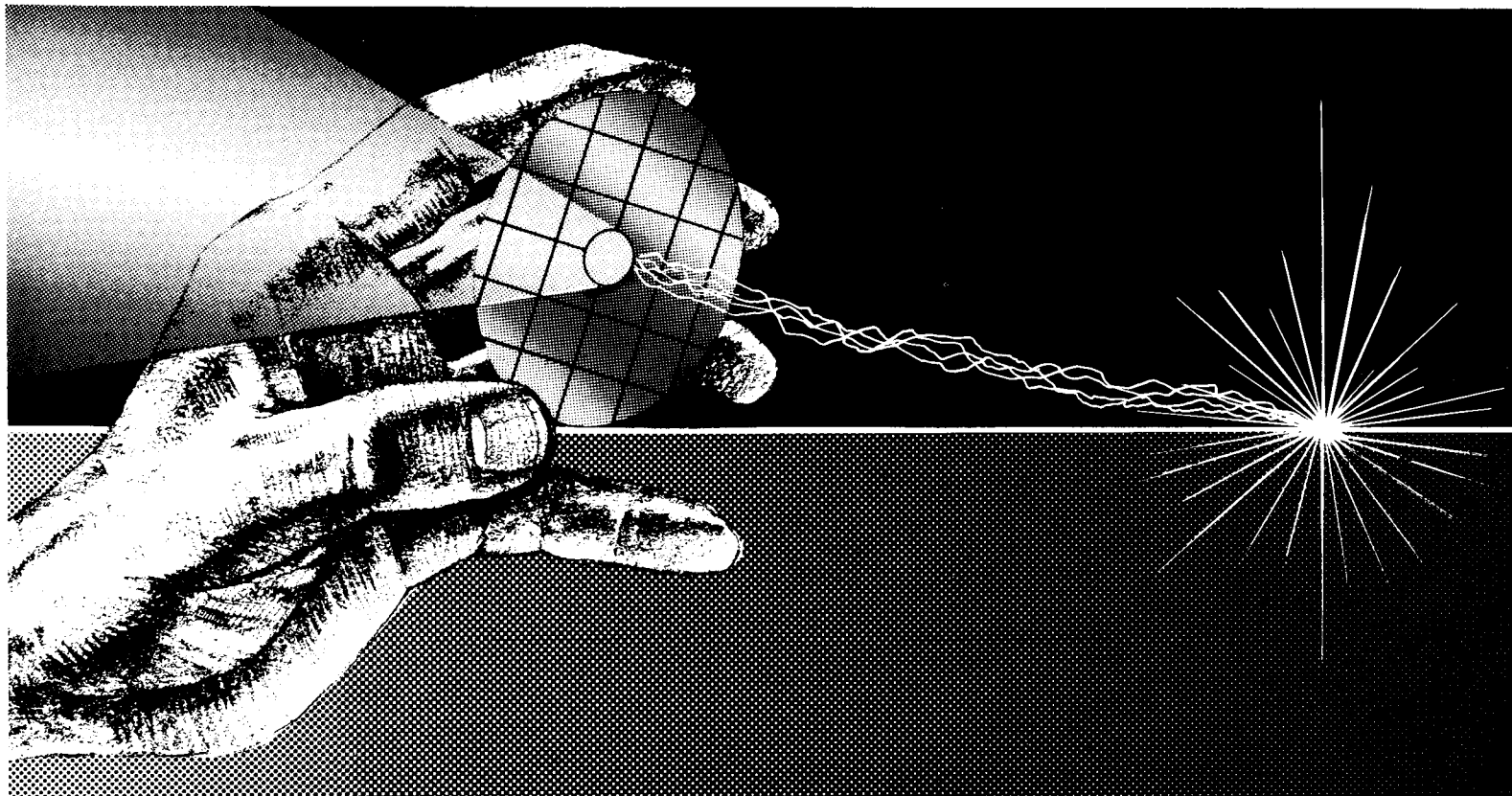
Some errors in the sports pages this term have come to our attention and should be straightened out at this time.

① Player number 29 on the Caltech football team does have a name (Steve Collins). He does not play fullback; he plays quarterback. The run that he was pictured making stretched far more than a mere 17 yards.

② Cross country runner John Ghering is not the same as John Ghering.

③ The Caltech soccer team are not the *Beyvers*; they are the *Beavers*.

④ One weekend angler who does research for *Scientific American* has expressed an interest in what this Warren Emery creature looks like in a Speedo. Is it anything like a woolly mammoth in a glacier?



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CALTECH public events

DISCOVER THE MOVING PICTURE MIME SHOW TONIGHT!

England's hilarious **Moving Picture Mime Show** can be seen in "Passionate Leave" tonight, Friday November 14 at 8 p.m. in Beckman Auditorium. A living comic strip in the style of commedia dell'arte, "Passionate Leave" is the enchanting tale of an ordinary Englishman abroad. The Moving Picture Mime Show's portrayal of characters and inanimate objects is vivid, versatile, and outlandishly funny.

CIT students can purchase rush tickets today at the Ticket Office for only \$6.00 each. CIT faculty and staff can purchase TECHTIX for \$7.50-6.25-5.00 from noon to 4:30 p.m. today by visiting the Caltech Ticket Office. **ATTENTION CIT STUDENTS:** We know you're looking for excuses not to work on Interhouse, so if you come to the Ticket Office today, we will give you two (2) free tickets to the Moving Picture Mime Show. But remember, you must mention this ad.

Sunday, November 16 at 3:30 p.m. brings the **Dorian Wind Quintet with Minoru Nojima** to Beckman Auditorium. This Coleman Chamber Music Concert will feature the works of Mozart, Bach, Barber and Berio. Tickets are priced at \$15.00-13.50-12.00-10.00; students \$4.00 off. A limited number of free tickets and tickets at \$6.00 each are now on sale to CIT students (limit one free and one at \$6.00 per CIT student I.D.) These are sold at the Caltech Ticket Office.

Next weekend you can visit "Royal London" from your armchair in Beckman Auditorium. Doug Jones personally narrates his fascinating film on Friday, November 21 at 8 p.m. This Armchair Adventures presentation shows you the various faces of London: from the Georgian and Regency eras to the Victorian and 20th Century Londons. Tickets are priced at \$7.50-6.00.

For further information about the exciting Public Events scheduled this season, call campus ext. 4652.

WHAT GOES ON

Announcements for *What Goes On* must be submitted on an announcement form (available outside 107 Winnett) or on a plain piece of paper. Please indicate the date(s) you want the announcement to run. Send announcements to 107-51, or put them in the mail slot in the door of 107 Winnett.

Announcements must be received by the Tuesday prior to publication.

Attention Writers!

The Literature Faculty is proud to announce the 41st Annual McKinney Competition. The Mary A. Earl McKinney Prize is awarded each year for excellence in writing. Only full-time students officially registered at Caltech as undergraduates are eligible to enter the competition. This year three prizes will be given in three categories: poetry, prose fiction, and non-fiction essays. All submissions must be typewritten and double-spaced. In the poetry category, entrants may submit up to three poems. Submissions of prose fiction should not exceed 12,000 words. Essays may be ones prepared for a humanities class or any good piece of original writing on a topic relevant to the humanities. The prize in each category will be \$300.

Each student is entitled to only one entry in each category. All contestants must submit their work to Professor Jenijoy La Belle, Division of the Humanities and Social Sciences, by no later than April 30, 1987. No entries will be returned. Each category will be judged by a three person committee from the Literature faculty. Essays will be judged on the quality of thought and the effectiveness of the writing. Winners will be announced the last week of May. The names of the winners will appear in the commencement program. There will be an Awards Banquet on May 28. The Committee may divide the award in each category in case of more than one outstanding essay. Previous winners in any one category are not eligible for the competition in that category.

If you have any questions, contact Dr. La Belle, x3606, or Betty Hyland, x3609.

Heidi's Couch

Anyone wishing to use the couch in the Ricketts courtyard must obtain permission from its owner, Heidi Anderson. Violators will be showered by Heidi.

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Winter Humanities Descriptions

Here are the course descriptions for some Winter term humanities classes:

Lit 149a—Contemporary Latin American Fiction

Readings and discussions of major works of contemporary Latin American fiction by Julio Cortazar, Gabriel Garcia Marquez, Mario Vargas Llosa, Carlos Fuentes, Rachel de Queiroz and Jorge Luis Borges. Books available in Spanish or English translation: Discussions will be in English. Three feature films (with English subtitles) will be shown: "Mexico: the Frozen Revolution," "Erendira," and "Camila." No prerequisites except curiosity about some of the best fiction of the 20th century.

Instructor: Mary Berg. Although an OM is set the probable meeting time will be T 7:30PM.

L 105—Issues of Identity in French Literature

The class will explore through readings and films a theme which traverses a broad spectrum of French literature from the Renaissance to the present day—the tension between public persona and private sentiments. Attention will be given to the way individuals present themselves in given social milieus. What are socially accepted forms of identity? What happens when an individual presents himself or herself in a way which goes against the social code? What importance do notions of decorum, worldliness or authenticity play?

The texts studied will be some short stories from Marguerite de Navarre's *L'Hep-tameron*, Moliere's *Le Misanthrope*, Rousseau's *Reveries d'un Promeneur Solitaire*, Balzac's *Sarrazine*, Camus' *La Chute* and Simone de Beauvoir's *La Femme Rompue*.

The texts will be available in both French and English. Depending on class make-up discussions will be in either French or English. Instructor: Nanette Le Coat.

Art 101—Art of the Nineteenth Century

A survey of nineteenth-century painting, sculpture and architecture with an emphasis on French art created between 1780 and 1880. The lectures will focus on issues such as the new tension between public and private images, the rise of landscape painting, the new image of the artist, the rise of the avant-garde, and new images of modern life which developed during this period.

Instructor: Shelley M. Bennett. W 7-10:00PM.

Lit 108—Seminar in Creative Writing

... will be taught winter term by Douglas Messerli. It will meet Wednesday from 7-9:00PM, and there is a limit of fifteen students, so please if interested do not wait to register.

H 161—Community in American History

This course will examine the idea of community in the development of American social history. It will focus on such issues as: the concept of community; the effect of social change on the traditional patterns of community; the communities of ethnic minorities. Reading assignments will consist primarily of a series of community studies dealing with colonial America, the nineteenth and early twentieth centuries. Students will have the option of writing either a research paper or a series of short essays.

Instructor: Leonard Moore. Time: TTh 2:30-4:00PM.

New Philosophy Course

A new Philosophy course has been added to the Winter schedule:

Pl 102—Foundations of Moral Thought: Is Morality Objective?

This course will be taught by Arthur Kuflick on Thursdays from 2-5:00PM.

Imitate Hemingway. Win Big.

Harry's Bar and American Grill, Los Angeles, announces its Tenth International Imitation Hemingway Competition, and once again one really good piece of really "bad" Hemingway can land you a friend in Italy.

What is Imitation Hemingway? It is writing. It is writing like Ernest Hemingway. It is parody. It is funny. The best entries will be very funny. All entries must mention Harry's Bar and American Grill. Nicely.

The prizes are simple. Fame. Immortality. Dinner for two at Harry's Bar and American Grill in Florence, Italy—plus the plane ride there and back.

To enter the competition, write your best piece of Imitation Hemingway on an official entry blank, which can be picked up at Harry's in person or by mail. Or write it on a piece of plain paper. Entries must be postmarked by February 16, 1987, and sent to Harry's Bar and American Grill, 2020 Avenue of the Stars, Los Angeles, CA 90067.

Free Conferences

Three Industrial Associates Conferences will be held next spring at Caltech. These conferences cost \$300 to attend—but wait! The fee is waived for Industrial Associates companies, the Caltech-JPL community, alumni of Caltech, and faculty, students and staff of other universities. This probably means you.

The conferences? They are: *Research Directors Conference*, February 10-11; *Electronic Materials and Devices*, March 3-4, 1987; and *Chemical Frontiers in Biotechnology*, March 31-April 1.

For more information, call Linda McManus, Events Coordinator, Development 105-40, x6599.

TACIT Musical Auditions

The TACIT Musical for 1986-87 is *How To Succeed In Business Without Really Trying*. Auditions are November 22 and 23 in rooms 25 and 33 Dabney Hall, from noon until 6:00PM. If you'd like to sing, dance and dazzle your friends, or if you'd like to have a lot of fun in our crew, this is the place for you!

Y ExComm Opening

The Caltech Y has a position open on the Y student Executive Committee. Any undergraduate or graduate student interested in joining the Excomm can apply at the Y office.

The position is a volunteer one, and as an Excomm member, the student works with seventeen other Caltech students to design and execute programs for the Caltech community. Y programs range from day hikes and backpacking trips to "Decompression", Wednesday Night Movies, Noon Concerts, speakers' series, workshops, sailing and ski trips, campus wide picnics and parties, and many other different programs. The focus is not only on providing opportunities for relaxation, enjoyment and adventure, but also on bringing up issues of moral, social, and political concern to campus.

As an Excomm member, the student is automatically a full, voting member of the Caltech Y Board of Directors, a 60-member group of outstanding Caltech and community figures that sets general policies for the Y and oversees the organization's \$143,500 budget.

If you are interested, talk to Julie Bolster at the Y office, x6163 or drop by the Y offices on the second floor of Winnett Student Center.

Numismatic Society Meeting

The speaker at the November 19 meeting of the Caltech-JPL Numismatic Society will be Henry Tanner, Assistant Treasurer and Secretary at Caltech and an avid coin collector. He will discuss "The American Trade Dollar." This variety of the silver dollar, struck between 1873 and 1878, was not circulated domestically but was used in foreign trade primarily in the Far East. It was made of silver but weighed slightly more than the internally circulated dollar.

Students and staff of Caltech and JPL are invited to attend meetings which are held the third Wednesday of each month at 7:30PM in Room 168 of the Church Lab Building on campus.

Amnesty Int'l Presentation

The Pasadena chapter of Amnesty International presents two videos about the human rights situations in Chile and Sri Lanka: *Chile: The New Victims* (1986) and *Sri Lanka: A Country In Anguish* (1986). The videos will be shown Thursday, November 20 at 8:00PM in the Y Lounge, Winnett Student Center. Following the presentations, members of the local AI group will discuss ways to help improve the human rights situation in both countries. Open to all!

Concert Lottery Drawing

The first term Ambassador Concerts Lottery drawing will be Monday Afternoon, November 17th. Each House will have one winner entitled to two tickets and the MOSH's Office will pay up to \$20 per ticket. Be sure to enter your name today!

Hughes Aircraft Seminar Day

The Caltech Industrial Associates office is sponsoring the Hughes Aircraft Company Seminar Day on November 19. Personnel from the Hughes corporate offices, laboratories and operating groups will be in attendance. You are invited to attend as much of the day as you'd like in 151 Braun from 8:45AM to 3:15PM

Interhouse Photos

Color photos of Interhouse may be submitted to the *Tech*, care of Joey Francis, 107-51. (due: 6:00 p.m., Monday)

Academia or Industry?

Have you ever considered becoming a professor? Or wondered why on earth anyone would want to be a prof? Questioned whether industry is all its cracked up to be?

Tuesday, November 18th, you can find out. Just show up in Clubroom 1 on the second floor of Winnett at 7:30PM. There you'll hear four panelists discuss the pros and cons of careers in academia and industry.

This panel discussion is sponsored by SWE, but *everyone*—grad, undergrad, faculty, staff, man or woman—is invited.

Vacation in Amsterdam!

Here's how to do it: come play bridge in the Intercollegiate competition on Tuesday, November 18 at 6:45PM in Winnett Lounge. We'll be scored against three other schools and the winning team will be flown to St. Louis, all expenses paid, to compete in the finals of the NACBC event. The winners at St. Louis will represent North America at the World Junior Team Championships in Amsterdam next year.

It's easy! You have a good chance of reaching the finals in St. Louis or even going to Amsterdam. There are only 30 schools participating in the whole country! So come and play a round next Tuesday. For more info: call Jeffrey at x4544 or 793-0814.

Architecture Lecture & Cookies

"The Alhambra, San Gabriel and Taqo Bell: The Architectural Influences of Spain and Mexico" is the title of a free lecture and slide presentation to be given on Nov. 18 at 8:00PM at the San Marino Women's Club, 1800 Huntington Drive, San Marino. The lecturer is Dr. Janet Fireman, Associate Curator of History at the Natural History Museum. The lecture is part of a series sponsored by the Foothills Council of the Museum. Refreshments will be served. For more information, call (213)744-3438.

Gay / Lesbian Discussion Group

The Gay and Lesbian Discussion Group will meet Tuesday, November 18. It will be held in the lounge of the Young Health Center from 7:30-9:30PM. The Discussion Group is open to all members of the Caltech community who have an interest, from whatever perspective, in lesbian/gay issues.

Calling All Cerebus Fans!

The *High Society* graphic novel, containing the entire High Society storyline (issues 26 through 50) is now available, by mail order only, from Aardvark-Vanaheim. Since there are quite a few Cerebus fans out there, I propose that we get together and buy (at least) one box of 18; we save quite a bit of money this way. The cost will be about \$16 a book.

If you're interested, send a note to Peter Alfke at 1-59. Give a return address, as I'll need to bug you for money before sending in the order. Eight people are already signed up, so act now!

continued on page 9

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