Construct Quake Maps
Caltech Researchers

[CBN] - A Caltech seismologist has produced the first earthquake hazard maps of the state of California based on the geologic record of prehistoric earthquakes that occurred as far back as 100,000 years ago. The maps were based principally on the historic quake record, a record that is at best complete for only the past 600 years.

Steven G. Wesnousky, who did the work as a postdoctoral research fellow at Caltech's Seismological Laboratory, will publish his results in the November issue of the Journal of Geophysical Research. An account of his research also appears in the September issue of Engineering and Science magazine. Wesnousky is now at the Tennessee Earthquake Information Center at Memphis State University.

According to Wesnousky, the maps may prove useful in deciding where to concentrate seismic instrumentation and efforts to mitigate earthquake hazard.

Wesnousky's research shows that the communities most at risk lie along the San Andreas and San Jacinto faults. Although two of the most heavily populated areas of the state—the Los Angeles and Ventura basins—are not traversed by such major faults, they are shot through with a myriad of lesser faults. These faults are subject to only moderate slip rates, but there are so many of them that the hazard level in these regions is relatively high.

In constructing these maps, Wesnousky had to determine both the maps and the rate of occurrence of earthquakes that rocked the state well before there were any human observers. To determine magnitude, he relied on the characteristics of the fault size of modern earthquakes and the length of the ruptures they produce along faults. The larger the earthquake, the longer its fault rupture, so by collecting information on fault length, Wesnousky is able to determine quake magnitude.

Wesnousky used the rate of occurrence of prehistoric earthquakes using data derived from two different sources—a direct method and an indirect one. In the direct method, researchers examine sediments that were ruptured by a fault. When the ages of those sediments are known, investigators can often determine when prehistoric earthquakes have occurred.

In the indirect method, researchers look for rock formations on either side of a fault that were once adjacent but have become separated by a succession of earthquakes over the eons. By determining the age of the formations and the degree of separation, investigators can compute the "slip rate" of the fault. This is a measure of the average rate of strain accumulation on the fault, and from this it's possible to determine how often strain-relieving earthquakes must have occurred.

With this information in hand, Wesnousky constructed a series of California maps detailing different aspects of earthquake hazard. One shows the number of faults in a given area that might be expected to produce damaging earthquakes. Another shows how frequently, on average, severe shaking can be expected. Still another series of maps shows where in California severe shaking is most likely during any random 50-year period.

In the accompanying map all these data have been combined with information on recent quakes. This map shows the estimated probability that mapped on-shore faults will produce damaging earthquakes during the next fifty years.

While the map highlights areas of high hazard, other areas of high hazard may yet remain unrecognized. An area can appear to be a low-risk area for two reasons: either the risk really is low, or there simply haven't been enough geological data or ways to determine the actual risk.

But this lack of data can be remedied. Says Wesnousky, "I think the primary result of this work is that it provides a framework for taking an active approach toward assessing seismic hazard. Rather than waiting until an earthquake occurs to modify our understanding of seismic hazard, we can look for faults and the features associated with them and gather information about slip rates and prehistoric earthquakes."

Commentary:
A Frosh View of Life At Caltech... So Far

by Amanda Heaton and Shubber Ali

Welcome to Tech! Arrive at 12 o'clock on Wednesday, registration from 1 to 4, dinner (find an upperclassman, but be sure to pay for your own way), sleep (if you can make up a bed with two sheets and a pillowcase, and catch the bus by 7 am Thursday morning). Three days of the infamous "Fresh Camp," and we were all set; except, of course, for the week of Rotation that followed.

Despite these hazards, most of the freshmen have survived. Camp provided an advantage in that most of those of us who tried made a good head start. It also provided an opportunity for upperclassmen, fulfilling some of our rotation duties. Introductory speech was the least of the rudiments of survival. And after the food on Catalina Island, BC doesn't seem to stand for the prehistoric age, and we actually enjoyed our first week of this gourmet fare (when liberally seasoned with "sparkling apple cider.")

For those of you who are starting to wonder about whether you should be here, it's too late! Stanford, MIT, and all those other "institutions of lower learning" don't want you anymore! But don't worry...73 units a term never hurt anybody—well, at least not the freshmen Health Check. If the course doesn't kill you, however, the "low" textbook prices might. Although a few of the courses are justifiable, the price of the Bible has gone up, and thirty dollar paperbacks can be found on the second hand book.

But what really bothers us? The classes, of course. Textbook costs? No. The true test of a freshman's stamina is rotation; or, more specifically, the constant questions we hear from each upperclassman: "Hi, where are you from? What are you interested in? Why did you come to Caltech? What are you looking for? Where is your favorite (color/subject/water-fowl/Bulgarian folkdance?) Would you rather shave your head or eat a gallon of Cool-Whip in one sitting?"

(At this point the upperclassman stumbles off, overwhelmed by the quality information you have imparted him.)

But giving credit where credit is due, we would like to thank the following houses... (And include some much needed information for the other freshmen, as none of the upperclassmen can seem to rhyme anymore...):

To Riddock, for their creative use of the visual medium and extra-terrestrial use of the "in the past" clause, and the (almost perfect) music that accompanied it.

To Ricketts, for their never-ending games of four-court (oh, four-square, sorry) where even innocent bystanders are part of the game (yes, I'm a wall; oh, you objected to my helping the other teams? no, that's ok, I like being a wall. where's the beer?)

To Page, for Clea, sports and bridge games, and for diversity in spite of adversity.

To Lloyd, for Tropicalia and Valhalla, for an atmosphere where it is possible to work, and for having been the noisiest of the North Houses at dinner with the least alcohol.

To Fleming, for its comraderie, napkin fights, and spirit; for the "Men are Men, Giants win the Earth, and the Tusking God is real..."

To Dabney, for their hot-tub, graffiti (may it never die), intolerance of inocence, and hand-capped parking without a pass.

To Blacker, for its general insanity and great bar—(what is that thing, Nancy?)

Please note—the above commands were written by freshmen, contain only facts, and are not intended to be derogatory. The houses were listed in reverse alphabetical order...If you haven't yet picked a house, pay close attention at dinner tonight—tomorrow's the day of reckoning.

Of course, the final day of reckoning comes over two months from now, when we take our first college finals. Along the way, however, we do have options. Add some classes: Pa 15, for example, is worth 3 units of credit, and it only requires 176 hours of work each week. Participating in sports gives both P.E. credit and pain. And for the less unit-inclined, Caltech has opportunities to participate in the ASCT movies, bridge games, guitar classes, and a variety of other clubs. Remember, it's your money, and your time. And if you spend enough of it, UASH might even let you flame out more than once!!
To the Editors:

150 S. Chester is a rowdy place. Everyone who lives there knows it, and it seems that most of that rowdiness is at the Housing and Master's Office's fault. It is unfortunate, and unnecessarily so, that not all of the people planning to live at 150 know it, and it seems no one bothers to tell them. Knowing that 150 is rowdy is important if you need a quiet place to live. I'm not talking about a cathedral silence, but just reasonable quiet. If this is true, 150 may not be the place to live; I speak from personal experience. A few people who live at 150 at the time I did shared this experience and feeling to a greater or lesser degree. The Bladder House Diplomacy (Manager of 150), Housing Office, and Master's Office are the only ones to contribute to this list of problems, to all of which violate simple rules of decency.

One solution suggested is legal. True, Panadone does have laws about noise and disturbance; in fact, it has a lot of them. It seems, however, that no one has really read these laws or made a guess as to their prudishness. They are rather rasty. For each separate instance of noisemaking (which is defined rather liberally as anything that offends at any time of day), a person can be hit with six months in jail and a $500 fine.

Another solution is for the noise-sensitive person to move. This is the one I and several others have chosen. It turns out to be expensive and painful.

The final solution has to be the noisemakers' habits forcibly changed. This is very easily done with a notice from 150. The first half smack of a deematic attitude that would put Caltech to shame, and the second the pets the noisemakers in the same miserable situation other have had to go through.

It is obvious that none of these "solutions" will work. The only reasonable solution, that of simply informing new entrees into 150 of what to expect, is not the one that has been employed. I am extremely surprised that the usually conscientious people of the Housing and Master's Office have done nothing for women such information. This oversight has caused me a lot of unnecessary grief at 150. It seems a small favor to ask, considering the great good it could do.

Gabrielle Gordon
A former resident of 150

The Caltech Y Fly-by

THE Y is a student-run organization relieving academic pressures at Caltech.

Activities include:
- Friday NOON CONCERTS
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- leadership training
- decomposition
- light shows & movies
- pre-school backpack trips
- no-interest 30 day loans
- day long sailing and hiking trips
- transportation to and from the airport bus
- xerox copies- only 7¢ a copy

call x6163 for more information

The California Tech, Friday, October 3, 1986

LETTERS

There will be a meeting Tuesday, October 7th at 7:30pm for all people, fresh or upperclassmen, interested in working on the California Tech. This includes current staff members!

Drinks and munchies will be provided.

COME AND HELP US CREATE THE EXCITING WORLD OF COLLEGE JOURNALISM.

This meeting won't take up too much of your valuable time—be there!

Tuesdays at 7:30pm

The California Tech

The page contains a letter to the editors, discussing the problems of living at 150, a rowdy dormitory, and calling for solutions such as informing new residents of the expected behavior. It also mentions the California Tech Y Fly-by, an organization relieving academic pressures at Caltech, and a meeting to discuss college journalism.
Sir,

Woodentop's fine "Give Get copies salad, pete"

and pilaf, with some "Get;] een fie o} ice"

Good Good

affordable prices

W oodentops: Giants of Pop

that the Woodentops do for the Beatles, the Stones, the foray sidesteps every hard-rock of manic quirkiness marks the ing to a lot of weird music, and around," his voice in counterpoint It's essential in erudite rock Giant

and it is within this rough category the best XTC songs, it's virtually as spiritual brethren of the early course, and there's a story behind ing, which is after all part of what "Perfect Skin" from a few years

that they are as seriously retro as, an unexpected feedback screech thusiastically recommend the chic for the audience with energy, humor, and honesty.

Many of the humor in the movie comes from Mars, a man who refuses to take off his expensive

and reveals several truths that

ders commitment and intolerance for its non-reciprocation; Mars

the show is billed as "a serious­ly sexy comedy," and lives up very

Lee), Jamie Overstreet (Redmond

he wants her for himself. The conflict arises when

and reveals several truths that

and shows the audience with energy, humor, and honesty.

Mars

of the freshest humor today. (It
dy impossible to find imports by

because that's the music's fault. If intelligent, upbeat pop music agrees with your tastes, I en­thusiastically recommend the album to you; you can pick it up at most record stores. That's the good news.

Now we move from criticism into praise. The Woodentops, the Woodentops, and their fans, are being

and not only pull it off but also fit in shreds of fuzzed-out electric guitar, the men represent a part of a whole that is rather bleak and depressing, it's nice to see that good use can still be made of the lighter emotions.

Take a listen. The album starts with the knockout punch of "Get It On," "Good Thing," and "Love It Time," the three of the best and most exhilarating songs of the year. "Get It On" opens with acoustic guitar, brings in a sweep of that classic's organ sound, and has you hooked by the time the ballsy drum breaks in, accopanied by maracas you remember

The Woodentops' Rock of the 80's digital Woodentops, and their fans, are being

and an U.S. deal with CBS.

The Woodentops use some horns, strings, and even accordion on occasion, but they're a band that uses acoustic guitar, maracas, xylophone, and for god's sake strings, and not only pull it off but also fit in shreds of fuzzed-out electric guitar, the men represent a part of a whole that is rather bleak and depressing, it's nice to see that good use can still be made of the lighter emotions.

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PLAY BRIDGE!

Tuesdays (7:15 p.m.) and Wednesdays (7:45 p.m.) are Caltech nights at the Bridge Center.

Bridge fee for Caltech students and staff will be $1.75 (normal fee is $3.75).

Caltech students and staff may play in any other Bridge Center game for $2.50.

Please call for our complete schedule.

Bridge Center
333 N. Santa Anita Avenue
Arcadia
(818) 445-3797

HELP WANTED

Reliable, self-motivating students are desired by the California Tech circulation department.

Fill up those boring Friday mornings by circulating the Tech on campus. Or sleep late and then make your Friday count by preparing the off-campus bulk mailing to subscribers.

Both positions are paid and require the use of a car. Each takes about 3 hours per week.

Interested? See David Goldreich in the Tech office (107 Winnett) or call ext. 6154.
Book Review

A Future That Never Was

by Nick Smith

**Futuredays**

A Nineteenth Century View of the Year 2000.

Text by Isaac Asimov
Illustrations by Jean Marc Côté

Holt, Rinehart, $12.95

It has opened the door for normal film distributors as cigarette cards (the French cigarette company. They you know and love). Unfortunate forerunner of the bubble gum cards, the company went out of business before the series was complete, so only these fifty survive.

Asimov’s 337th book (we think), is a mixture of several of the fields named above. The illustrations are a collection done in 1899, commissioned by a French cigarette company. They were part of a series of cards that was to be distributed as cigarette cards (the forerunner of the bubble gum cards you know and love). Unfortunately, the company went out of business before the series was complete, so only these fifty survive.

What Asimov has done is provide the pieces together, providing a historical perspective for these odd views of the then-distant future.

Côté’s illustrations show such things as helicopters, armed dirigibles, dictating machines, radio language labs, military armored cars, ultra-light aircraft, scuba gear, mobile homes, high-speed electric trains, aerial smuggling, hydroplanes, and automatic chicken incubators. Of course, he also portrayed such things as underwater croquet and efficient mail service, but nobody’s right all the time.

The whole point of Futuredays is that it’s fun to take a look at the future, and instructive to take a look at the past’s view of the present, or in this case the near future. Côté showed considerable foresight, and most of the things he failed to foresee were things that involved major breakthroughs that changed the physical forms of the items he sought to portray. For instance, he thought that news would be listened to at home, rather than read from a newspaper, but he did not foresee radio and television, so he had “newspapers” delivered in the form of records, to play on the record player.

Some of the illustrations are deliberately whimsical, such as scuba-divers coming to the surface to fish for seagulls, or other underwater dwellers being transported by whale-bus. Overall, though, the drawings provide some interesting looks at the year 2000, and many of the things predicted have come to pass.

Futuredays is a fun book, and Asimov’s commentaries help fill in any gaps in the reader’s knowledge of the contexts. I recommend it to anyone who likes Jules Verne or other futurist science fiction of the past. I also recommend it to anyone who wants to look into our own future, since it presents some good examples of technical extrapolation and outright dreaming.

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FRIDAY 3 OCTOBER 1986

ENTERTAINMENT

Gotta Have It

from page 3

who is fresh out of film school, because the film is not only critically acclaimed, but is also breaking box office records in New York and is currently selling out in West L.A.

Lee has expressed the hope that his film has opened the door for many young, struggling filmmakers who were under the impression that they required millions of dollars to put a movie together. Lee has directed this message primarily to black directors and producers and appears to want to set an example for black youth in general. She’s Gotta Have It is laden with black messages; the production company is Forty Acres and a Mule Productions; there are many insults to the Boston Celtics, a predominantly white team; the show starts with a series of photographs of blacks in ghettos.

Sometimes audiences can be deceived by the show. Many people go in expecting strictly a comedy and wind up laughing during serious scenes, such as one involving rape. Others miss the central point of the work - that Nola is not a freak, but a normal woman - and leave the theater saying, “What a nympho!” A couple of hints for the moviegoer are 1) let the show convey what it intends and not to make premature judgements, and 2) ignore the color dance scene in the middle of the movie - it has no importance and is rather boring.

By no means is this a perfect movie. The flaws, however, are superficial, and can almost voluntarily be overlooked. Spike Lee is a name to look out for; future movies by him should also be “must-sees.”

She’s Gotta Have It will start its engagement at the Colorado Theatre (within quick driving or half-hour walking distance) tonight and will probably be showing there for a long time to come.
MAGIC MOMENTS

Enchanting Excursions into the Realm of Entertainment

QUEEN IDA and The Bon Temps Zydeco Band
Friday, October 3, 1986/8 p.m.
Beckman Auditorium
$12.50-10.00-7.50
Exotic rhythms are the foundation of the bewitching sound of Zydeco. Reggae out of Jamaica and calypso from Trinidad, country and western swing are woven with Dixieland jazz, blues, rock and a Latin pulse into a provocative zigzag beat against driving Acadian-French melodies. Queen Ida is the first female band leader in the zydeco tradition, but she is the spiritual descendant of the great female Blues artists of the '20s and '30s.

BEVERLY HILLS FESTIVAL "The Tempest"
Saturday, October 4, 1986/8 p.m.
Beckman Auditorium
$15.00-12.50-10.00
Benedict is to an enchanted Caribbean island. The Duke of Milan weaves magic spells over his shipwrecked enemies, his innocent daughter and his anguished son. Shakespeare's soulful play is reduced to an electrifying effect. Since first turning their acoustical excitement into visual magic, these cats can jam 'til you drop. For over three decades the Dukes of Dixieland have been that's sure to astound you. For over three decades the Dukes of Dixieland have been that's sure to astound you. For over three decades the Dukes of Dixieland have been that's sure to astound you. For over three decades the Dukes of Dixieland have been that's sure to astound you. For over three decades the Dukes of Dixieland have been that's sure to astound you. For over three decades the Dukes of Dixieland have been that's sure to astound you. For over three decades the Dukes of Dixieland have been that's sure to astound you.

FLYING KARAMAZOV BROTHERS Juggling and Cheap Theatrics
Thursday, October 9, 1986/8 p.m.
Beckman Auditorium
$20.00-17.50-15.00
Five very different brothers work together to create real magic, not the trick kind, but their own kind of mad juggling magic where no illusion is involved. Fire, and two, criss cross and nimble fingers become a mesmerizing maze for the whole family, mixed with music you have to see to believe. Not only that, but the Brothers will demonstrate their considerable skill in the very difficult art of wind-up mimes.

BURLESque Thursday, November 1986/8 p.m.
Beckman Auditorium
$25.00-20.00-17.50
With his twinkly blue eyes, gray-white beard and mellow sound, America's master of folk humor, tragedy and irony of Charlotte Bronte's life. The haunting author of "Jane Eyre" proves to be an intriguingly multifaceted concept of each piece from what they choose to perform. On the program are sung impressions that range from Puccini, Verdi, Bizet to the Beatles. The joyous emotions of a family reunion party.
MISSISSIPPI JAMBALAYA
Saturday, March 7, 1987/8 p.m.
Beckman Auditorium
Adults $8.00; children $5.00
Come on down to the levee and join us for this all-singing, all-dancing and all-American revue. Rattle the excitement along the river and each time the calliope sounds at the Showboat comes to town. This intriguing show combines New Orleans Jazz, Memphis Blues and Dixieland with Red Hot Mamas, Riverboat Gamblers and dancing shoes to capture the true spirit and roots of America.

SUPERCUSSION
with Steven Traugh
Sunday, March 8, 1987/2 p.m.
Beckman Auditorium
Adults $8.00; children $5.00
Steven Traugh’s superb band lights up the stage with an exotic array of voices, brass, synthesizers and percussion. Elements of jazz and classical are woven into tapestries of sound that are imaginative, splitting and ultimately satisfying experiences. A great “new-class” of big band with an entrancing, irresistible Afro-Latin beat.

LIONA ROYD
Guitarist
Friday, March 13, 1987/8 p.m.
Beckman Auditorium
$17.50-15.00-12.50
Acclaimed throughout the world for her superlative performances on classical guitar, Liona Boyd brings a smooth and singing technique to her playing. This spellbinding young artist has been praised for her “flair for brilliance” and “breathtakingly beautiful playing.”

MUSIC AND DANCE FROM LHASA, TIBET
Tuesday, March 31, 1987/8 p.m.
Beckman Auditorium
$15.00-12.50-10.00
A taste of the rich culture of this remote area is given by Tibetan opera, unusual musical instruments indigenous to the region and Tibetan tea-like dancing, traditionally performed by men. You’ll also experience fascination with the earthy and moving licks of Tibetan singing, usually performed by women at festivals. Dressed in authentic costumes, this troupe of seven musicians, dancers and singers perform dances never before seen in the United States.

THE MYSTERIOUS WORLD OF MAGIC AND ILLUSION
Produced and directed by Chuck Burnes
Saturday, May 30, 1987/2 p.m.
Beckman Auditorium
Matinee: Adults $8.00; children $5.00
Evening: $12.50-10.00-7.50
Adults and children alike will love this imaginative show of magical tricks and illusions performed by some of the best magicians around. Astounding and mystifying acts of legends, man and machine hand promise to make this an unforgettable event.

Tickets for series and individual events on sale now.

HUDSON VAGABOND PUPPETS
“Story Theater with Puppets”
Sunday, April 12, 1987/2 p.m. 6 p.m.
Ramo Auditorium
Adults $8.00; children $5.00
Bring the kids and enjoy amazing puppet wizardry with creatures as tall as 10 feet! Watch such favorite tales as The Three Pigs, The Three Bears and Little Red Riding Hood?

LANDIS & COMPANY THEATRE OF MAGIC
GREAT VAUDEVILLE MAGIC SHOW
Saturday, April 25, 1987/8 p.m.
Beckman Auditorium
$17.50-15.00-12.50
The classical tradition of vaudeville is combined with the most modern magic of today's stage—that's new vaudeville—that's the Great Vaudeville Magic Show. Landis Smith will thrill enthrall you. His graceful art of illusion will leave you spellbound and full of wonder. And you'll never forget his dazzling classical illusion using modern laser technology. A great evening of entertainment for the whole family.

THE CAMBRIDGE BUSKERS
Saturday, May 2, 1987/8 p.m.
Beckman Auditorium
$15.00-12.50-10.00
Michael Crossley and Dag Ingram are two English virtuoso musicians. Starting their musical careers on the street, they have developed a most startling and nutty show that uses an accordion plus twenty other wind instruments. It’s a hilarious show you won’t want to miss.

PETER MACK
Soprano
Saturday, May 9, 1987/8 p.m.
Ramo Auditorium
$12.50
Hear a mesmerizing performance by one of the most promising young pianists on the musical scene today. First place winner of the 1985 Sherman Clay Piano Competition, Peter Mack has concertized throughout Europe and Canada, gathering for himself an international following. Don't miss this Los Angeles debut!

ANDREA ANDERSON
Pianist
Saturday, April 4, 1987/8 p.m.
Ramo Auditorium
$12.50
Ms. Anderson’s captivating expressiveness at the keyboard continues to delight audiences from Carnegie Hall, New York to the Great Hall of the People. Her performances are marked by stunning ease, clear projection and considerable sophistication that bring a remarkable energy and sensitivity to the music.

THE ROYAL LICHTENSTEIN QUARTER RING SIDEWALK CIRCUS
Saturday, May 30, 1987/3:30 p.m.
Ramo Auditorium
Adults $8.00; children $5.00
An action-packed, lightning-paced potpourri of magic, juggling, mime, storytelling, small animal acts, handballdom, comedy and clowns. It's the world's smallest complete circus, a total entertainment experience.

CALTECH/JPL FACULTY & STAFF TECHTIX 1/2 PRICE TICKETS
Now you can purchase tickets at 1/2 price the day of the show or on Friday for weekend events by visiting the Ticket Office in person between noon and 4:30 p.m. Your discount of $2.00 off still applies to advance single ticket sales. Limit 2 tickets per CALTECH/JPL I.D. Subject to availability.

CALTECH STUDENTS
You can purchase tickets in advance for 1/2 price or rush tickets at $6.00 each 1/2 hour before the show. Subject to availability.

For INFORMATION, call the TICKET OFFICE on extension 4652.
Guitar Classes
The Beginning Guitar Class (no experience necessary) has been reformulated to include not only classical repertoire but a new jazz and folk chord system as well. This will give the student a strong classical technique and enable him to branch out into other forms of guitar if he desires. For further studies in classical and flamenco, Intermediate and Advanced Guitar Classes are also offered. Classes are free to Caltech students (and other members of the CIT community, space permitting). Undergraduates can receive 2 units of credit if they choose. Classes will be on Tuesdays starting October 20th in Wildenstein as follows:
Beginnings: 4:30–5:30pm Intermediate: 3:30–4:30pm Advanced: 5:30–6:30pm
Private instruction can also be arranged on any level with instructor Darrel Denning, who has an international background in recording and performance. For further information call Mr. Denning at (213) 381-9894.

...and more Scholarships
The Leopold Schapp Foundation is offering scholarships to full-time undergraduate and graduate students. Applicants should be U.S. citizens or have permanent resident status. Written requests for applications should be sent to the following address before December 31:
Executive Secretary, Leopold Schapp Foundation 15 E. 26th St, Suite 1900 New York, NY 10010
Please include a statement of educational background, year in school, length of study, goals, and financial need. Additional information is available from the Financial Aid Office, 515 S. Wilson.

The Inside World
Blacker: Welcome, welcome to the House of Gracious Living. Having just recently undergone some structural face-lifting, we have some great new features. Let me give you all. Just step in and poke around...our wonderful open-air courtyard dining facilities. Where else can you enjoy dining in the fresh air, with views of the city, and cross-legged, red hair and ruddy skin. Yes it's possible...

Bengt: Vad du någon nyhet?...Bucket Blacker. Currently serving from the lounge, our nearly-complete bar offers various alcoholic beverages at reasonable cost all night. We also have hot peppermint cocoa (with a spicy twist to keep you warm and toasty), ice cream shakes made with chocolate, strawberry, or root beer, or any flavor you desire. Our nearly-complete bar offers various alcoholic beverages at reasonable cost all night. We also have

Business: Beginning Guitar Class (no experience necessary) has been reformulated to include not only classical repertoire but a new jazz and folk chord system as well. This will give the student a strong classical technique and enable him to branch out into other forms of guitar if he desires. For further studies in classical and flamenco, Intermediate and Advanced Guitar Classes are also offered. Classes are free to Caltech students (and other members of the CIT community, space permitting). Undergraduates can receive 2 units of credit if they choose. Classes will be on Tuesdays starting October 20th in Wildenstein as follows:

Happy Hour
Monday and Tuesday
Beer on draft and wine Half price
Free refills on softdrinks

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FREE 6-Pack Soda with minimum $8.00 order

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TUESDAY

15% DISCOUNT with STUDENT ID NOT VALID ON DELIVERY OR ANY COUPON OFFER

Bye y'all, goodbye. Good night...
INTRODUCING COLLEGIATE FLIGHTBANK, FROM CONTINENTAL AND NEW YORK AIR.

If you're a full-time student at an accredited college or university you can join our Collegiate FlightBank. You'll receive a membership card and number that will allow you to get 10% off Continental and New York Air's already low fares. In addition, you'll get a one-time certificate good for $25 off any domestic roundtrip flight. Plus, you'll be able to earn trips to places like Florida, Denver, Los Angeles, even London and the South Pacific. Because every time you fly you'll earn mileage towards a free trip. And if you sign up now you'll also receive 3 free issues of BusinessWeek Careers magazine.

Or the grand prize, for the number one student referral champion in the nation: a Porsche and one year of unlimited coach air travel.

And how do you get to be the referral champion? Just sign up as many friends as possible, and make sure your membership number is on their application. In order to be eligible for any prize you and your referrals must sign up before 12/31/86 and each referral must fly 3 segments on Continental or New York Air before 6/15/87. And you'll not only get credit for the enrollment, you'll also get 500 bonus miles.

So cut the coupon, and send it in now. Be sure to include your current full time student ID number. That way it'll only cost you $10 for one year ($15 after 12/31/86) and $40 for four years ($60 after 12/31/86). Your membership kit, including referral forms, will arrive in 3 to 4 weeks. If you have a credit card, you can call us at 1-800-255-4321 and enroll even faster.

Now more than ever it pays to stay in school.

SIGN ME UP NOW!
SPORTS

Water Polo Tops .500 – Bruno Recovers From Bout With Water Foul

by Skip Schotte

The past three weeks have seen the beginning of yet another year of water polo. This year's team is composed mainly of returning players, with a few fresh beginning to make their mark. After losing the first two games to UC Riverside and Redlands, the team came back to achieve a 4-3 record, surprising both ourselves and the coach.

The first victory came against Dominican College (from somewhere up north). The game was well out of reach as soon as the first half had ended, and almost everyone got lots of playing time. Our next game was against PCC, whom we defeated last year.

After three quarters we were down by only two goals in a very close battle. But in the last quarter, the swimmers from PCC outlasted us and out-scored us 9-1 to insure their victory.

Our next two games were somewhat easy victories over Chaffey and Rio Hondo J.C.'s. Following this 3-3 pre-season, surprising both ourselves and the coach.

The first victory came against Chapman College from somewhere in Orange County. After a close first quarter, we were down 3-2, but came back in the second quarter to take a 6-3 lead into the half-time break. During the third quarter, David "Bruin' Bruno" Bruning managed to jam his eye into someone's foot, thereby giving himself a nice little gash and prompting several people to change their nickname to "Bruised Bruno." After three quarters, we were up 11-5. By the fourth quarter, everyone had gotten some playing time in the tank.

This coming week we play PCC at home on Wednesday and then the alumni on Saturday. Rumor has it that the alumni are the best team we will play this year, so come out to both games and cheer us on!

Special praise should go to Eric Christensen who has played remarkably well in the goal, making many outstanding saves. Other notable performances have been Bruno with 32 goals, including a 9-goal game, and Vito with 28 goals (two 6-goal games). The whole team would also like to thank Jeanine Hopkins for making the season much more fun and enjoyable.

Since there is not enough space to mention everyone here, tune in next week for the continuing saga of the Mikasa.

Volleyers Struggle to Bounce

by T. A. Chikara

The Caltech women's volleyball club has opened the fall season with two tough losses against probably the strongest teams on its schedule.

A week ago Tuesday the team opened its season against Occidental, which has one of SCIAC's strongest volleyball programs. Perhaps being a bit rusty in this first match, Tech started out slowly and lost the first game 15-3. However, the club pulled together later in the match, building strong early leads before finally succumbing to Oxy in Games 2 and 3 by scores of 15-7 and 15-9 respectively.

This past Wednesday night, the volleyball team traveled to Brentwood to face a powerful Mount St. Mary's squad. Despite the absence of several key players, Caltech performed admirably in a 15-4, 15-5, 15-3 defeat. Mt. St. Mary's experience and bench depth helped it to simply overmatch Tech's small squad made up mainly of freshmen and sophomores.

So far this season, standout performances have been turned in by senior Linda Schlueter, an excellent hitter and superb all around player, as well as by grad student Lynn Hildeman, whose experience and setting ability have greatly helped the team's cause. Other important members of the club are grad students Julie Moses and Chris Wilson.

Volleyball's undergrad contingent features the following players: senior Nancy Drehwing; junior Nicole Vogt; sophomores Carol Choy, Betsy Andrews, Kyuson Yun, and Karen Oegema; as well as freshmen Jeannette Woo and Margie Pollack. Laurianne Williams is again coaching the club this year.

Caltech's volleyball season is now in full swing, as is evidenced by the fact that the team has four games scheduled next week. On Monday they have their rematch against Oxy at Caltech at 4 pm. Wednesday, they travel to Claremont to face Claremont-Mudd-Scripps at 7:30 pm, and on Friday they have another away game against Redlands at 6 pm.

The club wraps up its busy week by returning to Caltech to play Pacific Christian at 2 pm a week from this Saturday. If you can find the time, try to give the volleyball club some fan support by coming out to watch their matches. Your attendance would be greatly appreciated by the team, since turnouts have been sparse thus far.
Caltech Soccer Boots Redlands
– Othmer, Frosh Tops

by Buster Dover

The Caltech soccer team defeated Redlands 4-3 in an exciting match at Redlands on Wednesday. Redlands started the scoring with a lucky goal in the first half. Early in the second half, Konstantin "the Barbarian" Othmer put Caltech on top by rocketing a full-volley into the upper left corner of the net. With only six minutes remaining, Othmer – Page House's brilliant right halfback – put Caltech on top by rocketing a full-volley into the upper left corner of the net. Shaken up by this brilliant play, Redlands immediately gave up another goal on a free kick by freshman Kleber Camacho. Redlands managed to slime a pair of goals to bring the score to 3-2 in their favor. Freshman James Othmer then demonstrated some fancy footwork to even the score at 3-3.

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Amateur Radio Club
This coming Tuesday, October 7, at 8 pm in the Y Lounge (spartans Winnett) the Caltech Amateur Radio Club will have its 1986-7 organizing meeting. Free pizza and cold drinks will be provided to accompany a talk on the history and plans for the club in the upcoming year. If you are a licensed "ham" and are just interested, please drop by. Bring your ideas and your two-meter handheld. Regular club meetings are scheduled on the 1st and 3rd Tuesdays of each month at 8 pm and are held in the Y Lounge. People who cannot attend the regular meetings should call the club secretary to schedule classes at their convenience. Further information about the club may be obtained from Dave Hodge, the club president at x6825 or from Dave Ritchie, the club secretary at 449-7371. Membership is open to all members of the Caltech community including undergraduates, graduate students, staff, faculty, alumni, j2-ers, and hangers-on. Anyone interested is encouraged to get in touch with Dave Ritchie; demonstrations and tours can be arranged at any time.

Musical Meeting
The annual October with Caltech Musical is How To Succeed In Business Without Really Trying. It is a musical revue and organizational meeting for the musical to be held Sunday, 12 October at 2pm in Winnett Lounge. We need/want/volunteer students to help with fund raising, producing and planning.

How To Succeed... has won the Toreadors Drama Critics Circle awards, as well as a Pulitzer Prize. Liz Oberstein will be choreographing again this year.

This looks to be a great show - get involved now!

Bridge, Bridge, Bridge!
Bridge is back! At least the Bridge Club is. Here's your chance to have fun, meet new people and play. We play duplicate at 7:00 pm on Monday nights in the Red Door Cafe. Beginners to experts, faculty, staff and students all welcome. We are ACBL sanctioned, so you can earn master points! Don't miss out on the game of the 90's. Bridge: Questions? Call Jeffrey (x544), 793-0814 or Jennifer (x3402) or visit: this week, 10-4.

Jazz Improv Class
There is going to be a jazz improving class. It will be taught by John Densmore of the Doors. We will be starting the class on a "pay as you go" basis. This non-class credit will meet Saturdays from 10 am to noon, in the Instrumental Music Office. The office is located in the basement of Winnett Student Center, just across from the Student Shop. All members of the Caltech community are welcome. Five levels of ability are encouraged to attend. For further information, please call Bill Bing at (213) 894-6875, or just attend the first class which will be on October 11.

Global Peace Prayer
This year's lavish Caltech October concert will be held on the lawn on October 2 at 6pm (4 pm Pacific time) in the Y Lounge. The concert will feature music from around the world. Admission is free. This year we are trying to involve students from other countries. If you would like to participate, please contact the office located in the Master's Office. The office is located in the Instrumental Music Office. The concert will feature music from around the world. Admission is free. This year we are trying to involve students from other countries. If you would like to participate, please contact the office located in the Master's Office.

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Caltech Tennis Tournament
It's time for the third annual XHMEIA (pronounced "Kem-ee-ah") Tennis Tournament, a round-robin tournament open to the CIT/DPL community, with a wide variety of categories and levels of competition. All entries are broken up into small groups to play round robin matches, and those with the best record will advance to finals. The main matches will run from October 20th to November 23rd, with the final matches to be played on December 6, 7, 13 and 14. There will be a small entry fee and trophies will be awarded. Contact Dan Zirin (356-4001) or mail code 127-72 for more details. Entry deadline is Wednesday, October 15.

EXPENSIVE LUNCH
In Orange County (ADDOC) is presenting a Future Style conference on October 12th, including a keynote address by Ray Bradbury, and talks by other notables, including JPL's Dr. Jim Blinn. The guest presenters will explore future directions in their areas of communications. The conference will address changes that are occurring in the business environment, digitalized animation and more.

Future Style will take place on the campus of U.C. Irvine at the Nelsen Research Auditorium and costs $60 general admission, including lunches. For advance to a finals round. The main levels of ability are encouraged to attend. For further information, please call Bill Bing at (213) 894-6875, or just attend the first class which will be on October 11.

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