A tongue of flame erupts from a broken gas main beneath a flooded Balboa Blvd. after Monday's 6.6 quake. photo by Rich Zitola

Earthquake!

by Laurent Stadler
and Mike Benedetti

A powerful earthquake struck the Los Angeles area at 4:31 A.M. last Monday morning. Thus far, the quake, measured at 6.6 on the Richter scale, has caused 46 deaths and an estimated \$15 billion in damages.

Forty-thousand people are without water due to the quake, and another twenty-thousand are without housing. In addition, quake damage has forced the closing of 18 freeways, some of which will take 6 months or more to be repaired.

Pasadena was relatively undamaged in the wake of the quake. Other locales were not as lucky. Fallen building marquees, cracked roads, and broken water mains were a common sight around L.A. on Monday morning. In the area of Balboa street, a broken gas line

caught fire, producing an eighty foot jet of flame that burned nearby houses to their foundations. A broken water main flooded the street, reducing the flame jet to 25 feet for most of the day, and washing away several small cars.

The fragility of mobile homes made them especially vulnerable to the effects of the quake. Without a strong foundation, many homes were displaced six or more feet by the quake, severing their natural gas lines. One stray spark was enough to cause many mobile home parks to become raging infernos. "There isn't enough water pressure here" said a fire fighter at the Oakridge Mobile Park, "And we can only lay 3" hoses." Firemen were unable to use larger hoses because the fire hydrants serving the park were too far from the fire. Nearby breakages in the water mains may have contributed to the low water pressure.

Remaining ASCIT nominations open

by David R. Derkits

With the conclusion of the Presidential Election comes the opening of nominations for the remaining ASCIT elected offices. Nominations for the offices of ASCIT Secretary, Treasurer, Interhouse Committee Chairman, Director for Academic Affairs, Director for Social Activities, Upperclass Director-at-Large, Freshman Director-at-Large, Athletic Manager, and BOC Secretary will open at 8:00 A.M. Wednesday, January 26, 1994, and close the following Tuesday at 5:00 P.M. If you are interested in running for one of these offices, please print your name on the nomination sheet posted on the east side of Winnett (outside the MOSH's office) and follow the directions. It is strongly recommended that every nominee submit a campaign statement to the

Tech. The submission deadline is 5:00 P.M. on Wednesday, February 2. The election for these offices will be held on Monday, February 7, 1994.

The ASCIT Secretary keeps minutes of all meetings of the Board of Directors (BOD) and posts copies in the Houses; he is also responsible for official documents. The Treasurer is in charge of all finances and property of the corporation. The Interhouse Committee (IHC) Chairman, who may not be a freshman, works with the presidents of the seven Houses and serves as a liaison between House governments and the BOD. The Director for Academic Affairs is responsible for the publication of the 1995 C.L.U.E. and chairs the Educational Policies Committee. The Director for Social Activities is charged with organizing social activities (which include the ASCIT

Formal and usually a Halloween Party) and coordinating them with House social activities. The Upperclass Director-at-Large manages the ASCIT van and copier, and the Freshman Director-at-Large is responsible for publishing the U.R.O.H. Note that, although candidacy for the at-Large positions is restricted by class, all ASCIT members may vote for each Director-at-Large. The Athletic Manager (either an individual or a group may run for this position) is responsible for the athletic awards; he is not a member of the BOD. The BOC Secretary works with the BOC Chair to investigate possible violations of the Honor System; other duties may be assigned by the BOC. These offices are fully described in the DOCUMENTS and STUDENT GOVERNMENT sections of the *little t*, and you can talk with the current officers about their duties.

Reverend Lawson recalls King for small audience

by Zackary Dov Berger

"Whenever the nation has made steps forward in justice . . . it's not the White House or the Congress or multinational corporations" that have affected these changes, "but the many thousands of ordinary people."

Reverend James Lawson, Jr., made this conventional but worthwhile claim in his Monday afternoon talk at the Beckman Institute auditorium. The talk, in commemoration of the birthday of Dr. Martin Luther King, Jr., had as its ostensible title "Where Do We Go from Here: Chaos or Community." But Lawson's talk belied this title, being not so much prognostic as nostalgic, not so much practical as spiritual and philosophical.

"The nations and the corporations of the world," argued Lawson, a third-generation Methodist minister and every inch the preacher in his stentorian repetition, "do not know how to make us cohere into a community." Without such a community, chaos results. We are, therefore, rapidly tending towards

chaos, warned Lawson, citing the L.A. riots as an all-too-familiar sign of our unraveling social fabric.

The reverend, a former colleague of King and himself involved in many of the what are now historical events of the fifties and sixties, then recounted those days. The Montgomery buses of 1955, Birmingham, and the nationwide sit-in campaigns of 1960 served as background for Lawson's citations of King's speeches and writings. Without these histories—themselves comprising the speaker's personal reminiscences—those citations would have been so expected as to have been trite. Thus supported, however, King's words lived.

Therefore, Lawson's own interpretation of King's motives and driving philosophies was most welcome: In these days of extremism and victims' one-ups-man-ship, said Lawson, it behooves us to remember that "King's victories were not victories for blacks or against whites—they were victories for people."

see LAWSON, page 10

It's part of our past: Dr. King at Caltech

by Edray Goins

Editor's note: This is the third in a series of articles appearing this term on the history of Caltech's under-represented students.

There was a period in Caltech's history when its students were active in social issues. Whether it was the involvement in the Jet Propulsion Laboratory had with building weapons for the Vietnam conflict, or the appointment of an Institute president to a government position, its students felt motivated to speak out and act. Now, it is difficult to motivate students to take a

day off and celebrate a national holiday.

One program that Caltech students developed was the "Leaders of America" lecture series. The YMCA, before it became the Caltech Y, sponsored a program that brought prominent leaders to speak to and spend time with undergraduates. Policy makers such as Roy Wilkins of the NAACP and Ralph Bunch of the United Nations were visitors through the program. In 1958, the first speaker was Clarence B. Randall, special consultant to President Eisenhower in the field of foreign policy.

Two weeks later, a younger Reverend Martin Luther King, Jr. would visit.

King had earned quite a name for himself in less than a year. In the summer of 1955, at the age of 26, he earned his doctorate from Boston University. In December, he began the Montgomery Bus Boycott. Two months later, his home was fire bombed with his wife and three month old baby inside. His hardship seemed to have paid off when bus segregation was declared unconstitutional in the fall of 1956.

The nation became aware of King's efforts when TIME magazine declared him "Man of the Year" in February of 1957. During this time, he was president of the Montgomery Improvement Association (MIA), creator of the Southern Christian Leadership Conference (SCLC), and pastor of his father's church, Dexter Avenue

see KING, page 11

ASCIT Elections

for ASCIT President, Vice-President/BOC Chair, and Tech Editor will be this Monday, January 24 from 10 A.M. to 10 P.M. For more information, see the special ASCIT election section on pages 8 and 9.

The California Tech

In this issue . . .

Letters to the editor	2
Igor's Insights	2
World News	3
Earthquake photos	3
Bridge Without Sam	5
Entertainment	5
Comics	6
Angus	7
ASCIT election information	8
Candidates' statements	9
Sports	10
Events & Notices	12



letters to the editor

'Victimology' criticized

Our Founding Fathers, "Nefarious Gangsters"? Don't believe a word of it! This is just another case of revisionist miscontextualization.

The Founding Fathers did not "institutionalize slavery" per se. After all, the Declaration of Independence said "all [hu]m[a]n[s] are created equal," and the practice of slavery clearly violates portions of the U.S. Constitution (i.e., the Eighth Amendment), as the Supreme Court eventually found.

The problem was, at the time, Africans imported as slaves were considered property, not citizens. This is what the courts said, not the "Founding Fathers." Sure, some of them owned slaves, but that was a common, legal practice at the time. Maybe someday in the future, we will decide as a nation that individual ownership of handguns is a dangerous thing and we should outlaw it. Does that make all current handgun owners "nefarious gangsters"? I think not! Currently, disco has fallen from the favor of the cool-blooded. Does that make all the disco ducks from the 1970s "nefarious dancers"? Don't make me quack!

Besides, as everyone knows, slavery was much more prevalent in the Southern colonies than in the North, because the economy was based on manual labor. The Founding Fathers were likely very eager to hold the colonies together and avoid "rocking the boat" over that issue (although some leaders were clearly morally opposed to slavery). If the colonies had split over slavery, there would not have been a

successful American Revolution which overthrew the old European ways. This accounts for oddities like the Constitution's Three-Fifths compromise, where each slave (not each Black) was to count as three-fifths. This effectively limited the population count of the South, and therefore its power and representation in Congress; it was a political compromise, not a statement of the worth of a Black.

I learned the original context of the Three-Fifths Compromise in high school, then unlearned it in the Academy. Our Founding Fathers, "Nefarious Gangsters"? In 1990, my year of graduation from Caltech, this sort of revisionism was at its peak. I am disappointed to see in 1994 that "underprivileged" and "disadvantaged" college students are still being placed in a cosmology of victimology invented by some of their professors. The words underprivileged and disadvantaged are, themselves, perpetrations of hacks, demagogues, and professors of victimology psychology.

Often, we find the rich are vain while the poor are proud. Coming to this country as a refugee, I have always been rather proud. And I have to wonder to myself, When will the intellectually vain cease to rob the materially poor of their most intangible possession, their dignity?

To any Caltech professors of political science who have no guts to challenge the notion that the Founding Fathers are nefarious gangsters: I hereby challenge them to public duels with the weapons of their own choosing.

Huy Thanh Cao
139-74

Elliott misses the point

Bryce H. Elliott writes that Edray Goins's article "... claimed that both Presidents Washington and Lincoln were either, 'our Founding Fathers,' or, 'Nefarious Gangsters' for their work in institutionalizing slavery."

First, Goins's article claimed nothing of the sort. Elliott needs to learn to read more carefully, and not to misrepresent the thoughts of others.

Second, Goins's discussion of Washington and Lincoln was tangential to the main subject of his article; the presidents were mentioned only in the introduction. Elliott's letter attacks the introduction of Goins's article, and nowhere addresses the article's primary content.

At best, Elliott's attack of Goins's introduction is insipid.

At worst, Elliott has attacked the introduction as a way of minimizing the content and purpose of the article.

Mitra Hartmann
Grad, Neurobiology

Please send letters to the editor to *The California Tech*, Caltech 40-58, Pasadena, CA 91125, or by e-mail to editors@tech.caltech.edu.

The Tech reserves the right to edit all letters for brevity or otherwise, and to refuse to print any letter for any reason.

The weekly *California Tech* staff meeting will be held today at 12:15 P.M. in the Coffeehouse. Free pizza and soda will be served. Potential Editors, writers, and Circulation Managers are especially encouraged to attend.

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Igor

Igor's Insights

While Ernest Tomlinson takes a week of well-deserved rest, the Tech welcomes guest columnist Igor to this space.

Dear Igor,

Perhaps you can settle a bet for me. Is the word "blaspheme" of Latin or Germanic origin?

—a Phlummoxed Philologist

LATINE

Dear Igor,
My sister-in-law—I'll call her "Joan"—is a very rude woman. Whenever she is invited, along with the rest of my husband's family, to dinner at my house, she insists on tearing at it.

CHAINS

Dear Igor,

What other mammals besides the human have the ability to yodel?

—B. in BBB

SNAILS
CONDOR

editorial

Big T fee increase needed

by Christy Esau

One of the bylaw changes you will be considering on Monday would raise the *Big T* fees from \$10 to \$12 a term. This increase would take effect next year.

As an editor of the *Big T* for two years and as current business manager, I urge everyone to vote "yes" on this change. The *Big T* has found it increasingly difficult to publish a respectable yearbook with the revenue it currently receives. It has simply been unable to keep up with inflation. For this year's book,

the editors (I, Karen Shih, and Nestor Ocampo) have been forced to reduce the total number of pages in the book. This means a smaller seniors section, and two fewer pages for each House. The number of color pages, one of the more expensive features, has also been reduced this year. It will only get worse in future years if a dues increase is not approved.

Please support the *Big T* and vote "yes" next week. If you have any questions about the *Big T*'s finances, please direct them to Christy Esau, christy@cco.x2183.

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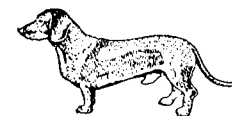
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The Accompanist

Daily 5:00, 7:20, 9:40 p.m.
Sat-Sun Bargain Matinee 2:30 p.m.

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EDITORS

Michael "Rodent" Benedetti
Chris "Stinky" DuPuis
Michael "Spoonster" Radford

BUSINESS MANAGER

Chris "Ex-" Echols

EVENTS AND NOTICES EDITOR

Jeff "Lump" Denniston

PHOTOGRAPHERS

Nelson Escobar
Richard "Bonehead" Zitola

CIRCULATION

Help Wanted
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Tobias Bartels
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Connie Chang
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Jeff Goldsmith
Wei-Hwa "Way Cool" Huang
Monwhea "Bug Juice" Jeng
Michael Kantner
Adam Villani

CONTRIBUTORS

Dave "The Knave" Derkits
Bryce H. "Bat Dick" Elliott
Edray Goins
Mitra Hartmann

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United States

Middle East peace talks resume on January 24 in Washington. The focus of the talks will be on the resolution on the conflict between Israel and Syria. Syria wants Israel to withdraw from Golan Heights.

On January 14, 1994, an official agreement was made by Russia and the United States to stop aiming missiles at each other's cities.

Scientists confirmed on January 13 that repairs on the Hubble Space Telescope were a complete success.

Defense Secretary Aspin moves to open many military jobs to women. Fifteen thousand to twenty thousand jobs may be opened.

Bobby Ray Inman, President Clinton's nominee to replace present defense secretary, Aspin, has removed himself for consideration. He claims the withdrawal was prompted by attacks against his reputation.

Southern California suffered a 6.6 earthquake on Monday morning. A series of aftershocks have been felt throughout the week. Many are displaced from their homes. President Clinton visited

Los Angeles on Wednesday to assess the damage.

Bosnia

On January 14 the UN confirmed that government forces have seriously curtailed the hold Croatian forces had in central Bosnia. However, Serbian forces claimed to have breached crucial lines of the Bosnian Army near Olovo. Bosnian forces deny these claims.

Italy

Italy's Prime Minister, Carlo Azeglio Ciampi, resigned on January 13. This resignation provides Italy with the opportunity to purge the country's political elite—the Christian Democrats. The Prime Minister's resignation follows scandals in the government involving bribes for government contracts.

Ukraine

Crimean separatists who advocate independence or rejoining Russia obtained 73% of the votes in their first presidential elections. This could derail the nuclear disarmament.

Another reformer, Boris Fyodorov, may also quit. The new cabinet might become more socialist-oriented which would be a major blow to Clinton's hopes of a reformed Russia. Russian government officials claimed that Gaidar's resignation will not deter the government's commitment to reforms.

Ultranationalist Vladimir Zhirinovsky has severely undermined his credibility in a series of senseless scandals that range from lunchroom brawls to blatant threats to his fellow lawmakers.

Reformists are pleased and anticipate that the public who voted him into power will soon lose confidence in him.

Foreign Minister Kozyrev said on January 18 that some Russian troops should remain in the former Soviet republics. Estonia and

Latvia fear this development might mean that Yeltsin does not intend to keep his promise to remove the remaining 20,000 former Soviet troops from the Baltic nations. However, a Foreign Ministry spokeswoman claims that troops will remain only in those regions where they are permitted to stay.

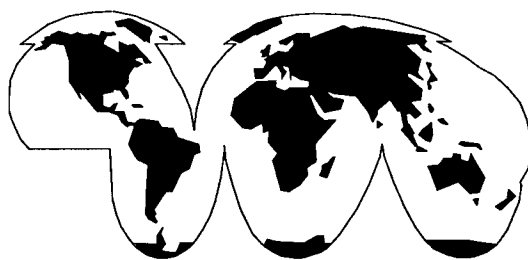
Somalia
Mogadishu's warring clans signed a peace agreement on January 16. However, the two warlords who lead the opposing factions were not present at the three day conference.

Haiti

Exiled Haitian President Jean-Bertrand Aristide hopes to resume his presidency on February 7. This weekend, in a weekend conference in Miami, the president asked for world support in tightening an oil and arms embargo and made plans for his return to his country.

Mexico
Mexican President Salinas announced a unilateral cease-fire and called a special session of the Mexican Congress in order to discuss plans for a general amnesty.

World News



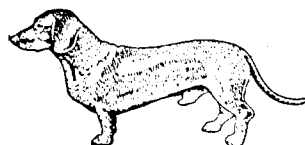
by Connie Chang

mament pact with the United States and strain Russian-Ukrainian relations.

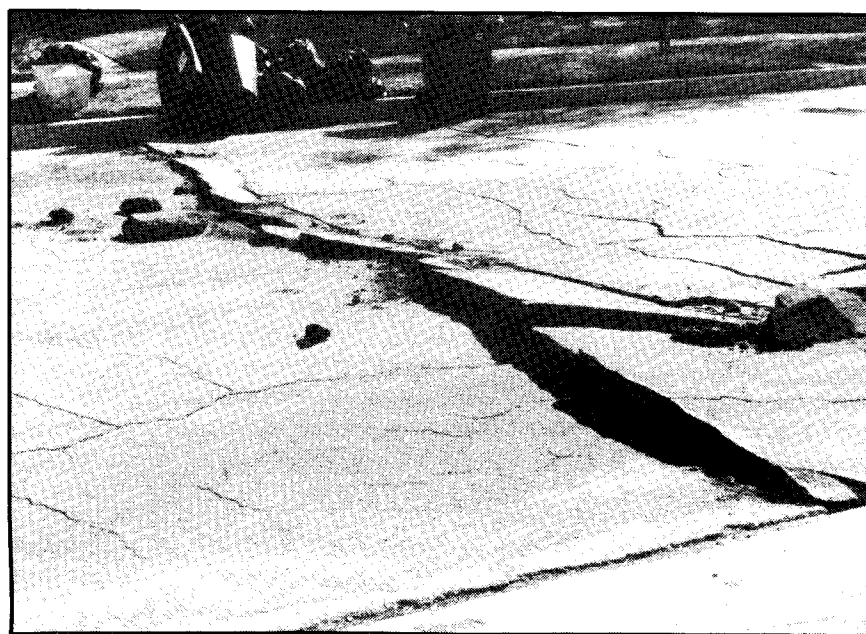
Russia

The architect of Russia's market reforms, Yegor Gaidar, resigned on January 16 from Yeltsin's gov-

ernment. Another reformer, Boris Fyodorov, may also quit. The new cabinet might become more socialist-oriented which would be a major blow to Clinton's hopes of a reformed Russia. Russian government officials claimed that Gaidar's resignation will not deter the government's commitment to reforms.



photos by Rich Zitola



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CETF sponsors paper recycling talk

by Mitra Hartmann

At noon on Wednesday, January 26th, Y. P. Fang, technical director at the Simpson Paper Company, will describe the paper recycling process. The talk will be held in Judy Library, room 110 Baxter Hall. Lunch will be served on a first-come first-serve basis.

This is an excellent opportunity for you to ask questions about how paper is recycled. Both technical issues and economic and distribution issues will be addressed. Why is it, for example, that recycled paper still costs more than un-used paper? What can be done at the local level to change the economics of recycled paper use?

This talk is sponsored by the Caltech Environmental Task Force, a student-run organization which works with Caltech to promote sound environmental policy. Before and after the talk you are welcome to speak with members of CETF and ask questions about recycling at Caltech itself.

Projects that CETF is currently working on include:

1. Collaborating with Physical Plant to ensure that the current recycling program is maintained and expanded.
2. Organizing a tour of the highly profitable Loyola Marymount Recycling Center: what can Caltech learn from them?
3. Participating in the Great L.A.

Cleanup (cleanups at Long Beach and Dockweiler Beach).

4. Establishing recycling bins near graduate housing.

5. Collaborating with Commuter Services to promote alternative transportation to Caltech, such as car pools and bicycling.

If you are interested in joining CETF, or would like to be on the mailing list, send e-mail to: hartmann@smaug.bbb.caltech.edu, or campus mail to: CETF, c/o Mitra Hartmann, 216-76.

CETF meets at noon on the second Wednesday of every month in Winnett club room 1. Everyone is welcome.

Caltech SEDS proposes \$4M satellite

by Ben McCall

Caltech SEDS (Students for the Exploration and Development of Space) has begun work on an ambitious proposal for a grant to construct a \$4 million satellite. The grant will be submitted to the Universities Space Research Association (USRA), which has received funding from Dan Goldin, the Administrator of NASA.

The USRA program, entitled "Student Explorer Demonstration Initiative," or STEDI for short, is intended to solicit small (approximately 200-400 pound) satellites to be launched into polar low earth orbit by converted Minutemen strategic missiles provided by the US Air Force. Six proposals will be selected in March for a four-month, \$160,000 development phase, after which three groups will be chosen for flight. After the selection, the payload must be flight-ready in under 20 months.

One feature of the STEDI opportunity is that it is designed to encourage involvement of undergraduate and graduate students, as well as young professionals in industry. Two weeks ago, I and Al Ratner, a SEDS officer, met with the president of the USRA, Dr. Paul Coleman of UCLA, to discuss Caltech SEDS's proposal and its prospects. "Dr. Coleman was incredibly enthusiastic about our proposal," said Ratner. "He told us that he had always dreamed of a student-run proposal, but anticipated that such a proposal would not surface for many years."

Coleman provided Caltech SEDS with some contacts in industry, and encouraged SEDS to seek technical support from engineers and recent retirees. Coleman was so impressed with the Caltech SEDS proposal idea that he "wanted to bring Dan Goldin out to talk with us, either before or after the proposal is submitted," according to Ratner.

Caltech SEDS members are currently in the process of designing the experiments and support systems for the satellite. Some Caltech faculty have already expressed interest in serving as advisors for this project, and SEDS members are contacting other professors for support.

SEDS is planning several experiments for its proposed satellite. The first would be a follow-up to a Getaway Special experiment that SEDS will be flying on the Space Shuttle in this November. This experiment monitors gamma-ray bursts of unknown origin, and also searches for associated optical flashes. The proposed experiment on board the SEDS satellite would likely equal or exceed the capabilities of the Burst and Transient Source Experiment (BATSE) onboard the Compton Gamma-Ray Observatory, at a fraction of the cost.

The second main experiment would monitor ozone. Currently there are no satellites in orbit (to our knowledge) that monitor atmospheric ozone concentrations in the polar regions of the Earth. This experiment would use ultraviolet light from the sun, backscattering off the Earth to spectroscopically determine polar ozone concentrations.

Other experiments on board would include a payload specifically designed to gather useful data for high-school level science classes. This data might include environmental data or simple data such as atmospheric density which might be useful for plotting. Another experiment under development, referred to as the "flying football," would jettison from the main satellite and attempt to de-orbit and land successfully back on Earth, while collecting data about its descent.

The deadline for submission of this proposal currently stands as March 3rd, which leaves little time. Caltech SEDS would like to solicit assistance from any interested on parties, especially professors, research fellows, and undergraduates. If you are interested in working with or advising the Caltech SEDS satellite team, please contact me, Ben McCall, at bjmc@caltech.edu or x2902. Everyone is also invited to our next general SEDS meeting (Monday at 7:20 P.M. in 107 Downs), at which this proposal will be discussed. Please note that you don't need any experience with space projects or any of the specific experiments to be of assistance.

Drilling reveals Mauna Kea's secrets

by Caltech Public Relations

A scientific drilling project boring through the surface lava of Mauna Loa and into the older, buried Mauna Kea lava has turned up such unexpected findings as a deposit of lagoon sediment and coral, and a much lower recurrence rate for lava flows in the last dozen millennia than was expected at the site. The pilot hole now being drilled as part of the project's first phase had reached a depth of 2800 feet on December 3.

In the first surprise finding, samples from deep underground revealed that a thick deposit of coral and lagoon sediment lies beneath the hardened Mauna Loa lava flow upon which the city of Hilo is built. Scientists generally believe that coral reefs don't form on the flanks of Hawaiian volcanoes until they are extinct, but Mauna Loa is far from extinct.

The second remarkable discovery is that lava flows at the site haven't occurred nearly as often as scientists thought. The surface lava flow at the drilling site is very thick, about 100 feet, and is about 1,200 years old. The expected recurrence rate of lava flows at the site, believed to be typical for Hawaiian volcanoes, is one or two flows every thousand years. But below the coral layer is another thick lava flow, which from the geologic relations must be at least 12,000 years old. This means that only once in the last 12,000 years has lava from Mauna Loa reached the east side of Hilo, an observation that surprised the scientists, but which is sure to warm the hearts of Hilo residents.

The larger objective of the Hawaii Scientific Drilling Project, as this enterprise is formally called, is to drill through and bring up samples of the entire depth of Mauna Kea, in order to study the

solidified lava flows that formed during the volcano's active lifetime. Scientists hope to glean clues from the rock about how the deep earth produces these huge volcanoes, whether current theories of volcanic growth and models of subsurface structure are correct, and maybe even how sea level varied in prehistoric times. Although different kinds of volcanic rocks look much the same to the untrained eye, there are subtle changes in the types of lava that erupt from a volcano at different stages in its lifetime. These subtle changes involve the lava's chemical makeup, the minerals it contains, and the isotopic composition of its chemical elements.

Funded mainly through a grant from the National Science Foundation, the project is led by principal investigators Don DePaolo of the University of California, Berkeley, Edward Stolper of Caltech, and Don Thomas of the University of Hawaii, Manoa.

The scientists chose to study the volcano Mauna Kea, whose 13,762-foot-high summit is the home of several of the best astronomical observatories in the world, because it is nearly extinct. Since it has lived almost its full life, records of all of Mauna Kea's major developmental stages are now preserved in the ancient lava that lies below the surface. The drilling site is located in the city of Hilo, some 28 miles distant from Mauna Kea's summit, just to the east of the center of town and within about 100 yards of the shoreline. The bright orange drill rig and its 38-foot-high derrick can be seen from the air on approach to the Hilo airport, in a wooded area between the runway and the shore.

Because drilling all the way through Mauna Kea would be very costly, and because drilling conditions are poorly known, the first

stage of the project is the pilot hole now underway, which aims to reach a depth of 1,000 meters (3280 feet). Ultimately, the scientists want to drill to a depth of about 6,000 meters (almost 20,000 feet), or slightly more than the depth of the ocean near Hawaii. At this depth, the drill hole would pass through the "bottom" of the fairly young, 600,000-year-old volcano into the ancient, 80-million-year-old sea-floor underneath, the foundation upon which the Hawaiian Islands are built. The drilling work, by the Tonto Drilling Company of Salt Lake City, started October 25 and should continue until early December.

The Big Island of Hawaii consists of five different volcanoes, three of which are historically active—Kilauea, Mauna Loa, and Hualalai. The other two—Kohala and Mauna Kea—have not been active in historical times. The lava flows of the different volcanoes overlap and interleave as the volcanoes grow, and older volcanoes tend to get partially covered by the lava from younger volcanoes. Hilo, and the drilling site, are located on lava from the active Mauna Loa volcano. But geologic models of the island's growth indicate that the Mauna Loa lava under Hilo should be a comparatively thin layer, little more than 800 feet thick, and that below them should lie some 19,000 feet of Mauna Kea lava.

The drilling is being done using diamond-bit coring techniques. The drill is made up of hollow steel pipe about 4 to 5 inches in diameter, with the "drill bit," a ring of steel impregnated with bits of diamond, at the end. As the drill pipe turns, the diamonds wear away the rock and cut through it. As the drill bit cuts downward, a solid cylinder of rock about 3 inches in diameter moves into the "core barrel," a steel pipe about 3 inches in diameter that fits inside the drill pipe. When

see VOLCANO, page 5

WRITE FOR THE TECH.

We're always looking for more help filling the *Tech* each week. Whether it's a one-time sports article, an entertainment review, or news about your club, we are grateful for all of your submissions. Submit copy by e-mail to editors@tech, to the *Tech* box outside SAC 40 on 3.5" Macintosh disk (Microsoft Word), or as hardcopy. Come to our weekly meeting today in the Coffeehouse to learn more.

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Bridge Without Sam

by Jeff Goldsmith

Unlucky Seed

Large knockout tournaments are usually seeded either completely or at least halfway. Probably the worst seed is number 16. It has to play the 17th seed in the round of 32, presumably an even match. In the round of 16, of course, they have to play the number one seed. In bracketed knockout events, often a cut is made between 16 and 17, so the sixteenth seed, in theory, is the weakest team in its event.

Playing in the Spingold Master Knockout Teams with a pickup team, we are the 114th seed and draw a head-to-head match against the 15th seed, a team of well-known experts plus a client. After the first half, amazingly, we are ahead by 44 IMPs, but the client is out for the evening, so we have to hold on against two very strong pairs.

The match has gone about as expected, so we are in almost a dead heat going into the last board, when I hold

♠K32 ♥AK64 ♦AQ3 ♣K76

With neither side vulnerable, my partner deals and opens 3♥. Recently, for some reason, he has taken to making preempts with terrible suits and some side strength. This I can handle, but he's been preempting with normal preempts, too. My reaction has been to automatically pass unless I had a great fit, which has been working out well so far. This hand, however, has too good a fit to pass. I know he doesn't have much of a suit, but opposite seven small hearts and out, 3NT is cold, so I bid it. My LHO, without pause for thought, doubles this and the other two players pass. LHO has been doubling my partner all day in freely bid 3NT contracts, and every time the contract has gone down. This time, I intend to teach him a lesson, so I redouble. This ends the auction and LHO leads the ♠6.

Dummy is a little surprising and not a welcome sight:

♠ 10
♥ Q109852
♦ 8742
♣ 102

N

W

E

S

♠ K32
♥ AK64
♦ AQ3
♣ K76

I guess I am unable to take a joke. I have only eight tricks on top and a diamond finesse for nine. I very much doubt that it will work. Furthermore, going down in 3NT redoubled cannot be a good result, so I am worried about the state of the match.

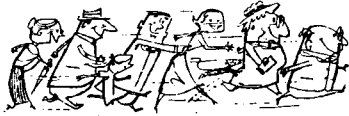
RHO covers dummy's spade with the Jack and I must win. I have no alternative but to run the hearts. The doubler started with the singleton ♥J, and pitches the ♠8 on the second round. They play that the first discard is strictly suit preference, so he is showing good spades. I knew that already. On the third round of hearts, LHO pitches the ♦9 and RHO pitches the ♠4. As I run the hearts, RHO pitches three spades (the 4, 7, and 9) and a club, while LHO's five pitches are club, diamond, diamond (10), club, club. I have five cards left, my three diamonds and two clubs.

LHO is an expert player and knows the whole hand. He has shown no strain during the run of the hearts, which is strange, since he normally spends a lot of time during the defense. It is 1:30 A.M., primarily due to his slow play. I think the hand is clear, though. LHO must have four spades and the ♠A. He probably also has the ♦K for his double; as it is, that would give him a fourteen count with no source of tricks. I am pretty sure that he has stiffed his ♦K, so I lead a diamond to the Ace, dropping the (now) stiff King, to make 3NT redoubled, +800.

At the other table, my teammates led a diamond against 4♥ played from my side. Third hand played the Jack (for no apparent reason), so the opening leader eventually got endplayed to allow the contract to make. Our opponents were figuring on a pickup on this board; weren't they surprised to lose 9 IMPs and the match on it!

It turns out, though, that the fifteenth seed was not a lucky one in this event. The next day, we lost to a team who lost the following day. The victors of that match inherited #15 and promptly lost in the round of sixteen. Finally, after losing all its matches, the fifteenth seed was out of the event by the round of eight.

The Caltech Bridge Club meets every Monday night at 7:15 in Winnett Lounge. Everybody is welcome; call Jeff Goldsmith at x2818 for details. The 4th annual pro-am is January 29th at 1 P.M. in Winnett Lounge.



entertainment

Games & Puzzles

by Wei-Hwa Huang

Alumni Meeting

Admittedly, I don't go near the Ath much (rumor has it that only Flem do), but there was one occasion where I actually sat right out side it and talked with someone.

It was quite strange, actually: I think I was walking back from a Chemistry lecture last term when I saw a man waving to me from the Athenaeum porch. It was just a fluke that I had noticed him, but after I looked around and saw that I was the intended audience, I responded with a wave of my own.

He beckoned me. I decided that this would be a good excuse for missing lunch, and walked up to him. He looked to be in his late fifties, early sixties maybe.

He said, "I went to an interhouse soccer game yesterday." I said, "I didn't." Not exactly paying attention to me, he went on. "I think the most memorable interhouse game was when Ricketts beat Blacker, three to one. I had scored the one early on in the game, but Ricketts managed to turn their defeat into a victory all in the last half."

I managed to interject, "Um, sir, I don't care much for sports, let alone soccer. If I may ask, why are you telling me this?"

He replied, "Oh, just waxing nostalgic, I guess. Anyway, you might want to see this." He picked up his briefcase and set it on the table he was sitting at, and opened the rusty clasps with a pair of clicks to reveal a chaotic jumble of papers. I thought, this guy isn't much organized than I am. He rummaged around until he found what he wanted: a yellowed, battered score card. This he gave to me. It said at the top: "INTER-HOUSE SOCCER, 1959." Most of the numbers were faded and unreadable, and the entire bottom half of the card (including the score matrix and a few of Dabney's scores) looked like it had fallen off through excessive folding. (See illustration below.)

I studied it a while, and said, "Why did each house only play two games?" The reply was, "Actually, after we lost to Ricketts, I was so angry that I didn't go to any other game that term. So not all the games were played when I filled in the score card."

Then I said, "I get it. It's a puzzle, right? Let's see if I can figure out which games were played at what result. Hmm . . . Dabney scored points, so it played at least one game, but since it had more goals against than goals for, it lost at least one game, so . . ."

As it turned out, I was able to reconstruct the 1959 soccer game. Can you?

Anything you'd like to see in this column? Send your suggestions, comments, and ideas to Wei-Hwa Huang, MSC 542, call x1540, or e-mail to whuang@cco.

HOUSE	GAMES PLAYED	GAMES WON	GAMES LOST	GAMES DRAWN	GOALS FOR	GOALS AGAINST
RICKETTS	2	1		3	3	
BLACKER	2			1	4	
FLEMING	2					
DABNEY			1	4	7	

continued from page 4

Volcano

the core barrel is full (there are two sizes, 5 feet and 10 feet long), it is pulled up to the surface inside the drill pipe, emptied, and returned to position without moving the drill pipe. Drilling goes on around the clock, and when all is going smoothly, up to 150 feet of core can be recovered in a day.

One of the first results of the drilling project will be to test the models for the subsurface structure of the islands. Typical lava flows from Hawaiian volcanoes are about 10 to 15 feet thick. If the project is successful and reaches a depth of 1,000 meters (3,280 feet), scientists will have obtained about one-and-a-half tons of rock core and drilled through 250 to 300 different lava flows. The lava at the surface is about 1,200 years old, and researchers expect the lava 1,000 meters down to be about 250,000 years old.

Another aim of the drilling project is to test the standard model of volcano growth by observing the interior of a volcano that has already gone through most of its development. Based on studies of surface flows, each volcano is presumed to go through several stages of development. At first, the volcano grows up from the ocean floor and is entirely underwater, but eventually it breaks the ocean surface and forms an island. As the

volcano grows in height, the island's land area increases proportionately. But the weight of the volcano also depresses the seafloor below it, causing it to slowly sink. During most of a volcano's life, lava erupts often enough that the volcano grows in height faster than it sinks. But as the volcano's lifetime comes to an end, the lava flows taper off while the sinking continues, and the island's area starts to decrease. As each volcano becomes extinct, a new volcano starts to form on its southeastern flank. The next Hawaiian volcano, called Loihi, has already started to form underwater southeast of the Big Island.

According to this model, the type of lava that erupts from Hawaiian volcanoes changes systematically through each volcano's lifetime. There are basically two common types of hardened lava, also called basalt-tholeiitic basalt and alkalic basalt. Both types erupt from Hawaiian volcanoes, but the standard model of volcano growth says that alkalic basalt comes out during the early and late stages of a volcano's lifetime, and tholeiitic basalt comes out during the main stage in the middle, when most of the volcano's growth occurs. This model has never really been tested, however, because the main stage is mostly buried and inaccessible, except by drilling, in the interior of the volcano.

Scientists also hope to learn something about the processes

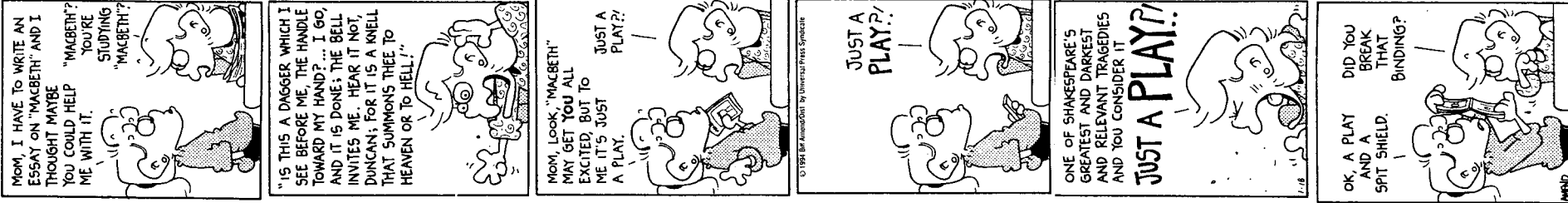
deep in the earth that create volcanoes. The volcanic chain that makes up the Hawaiian Islands is believed to form from a hot stream of molten material that is rising from deep in the mantle toward the surface in a so-called plume. Some scientists think that these plumes originate from a depth of 3,000 kilometers (nearly 1900 miles), at the boundary between the earth's iron core and the rocky mantle, but they don't agree on the details of the processes by which this hot mantle rock creates lava. One good way to study the processes is by measuring in detail how the composition of lava from a volcano has changed over time. The different types of lava in the drill core will offer excellent material for this type of analysis. The lava compositions will also tell whether the deep mantle where the mantle plumes may originate is different in composition from the shallow mantle, which acts as the source of lava for most types of volcanoes.

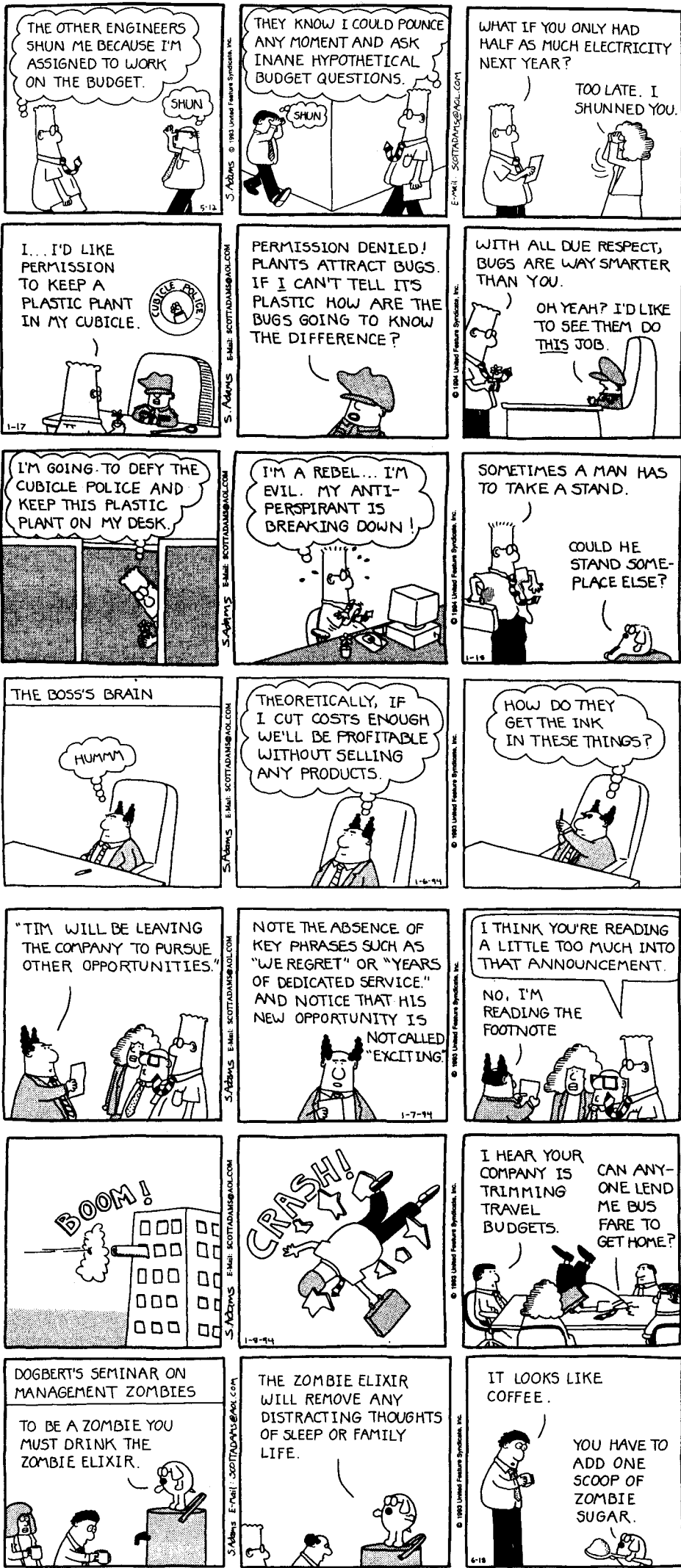
Researchers also expect the lava samples to give hints about the rise and fall of sea level in the geologic past due to ice ages. They can usually determine from the texture of the lava whether it formed underwater (submarine) or above sea level (subaerial). The sinking of the volcanoes, combined with the accumulation of new lava and the rise and fall of sea level, means that the shoreline moves back and forth with time. This complex situation

see VOLCANO, page 11

FoxTrot

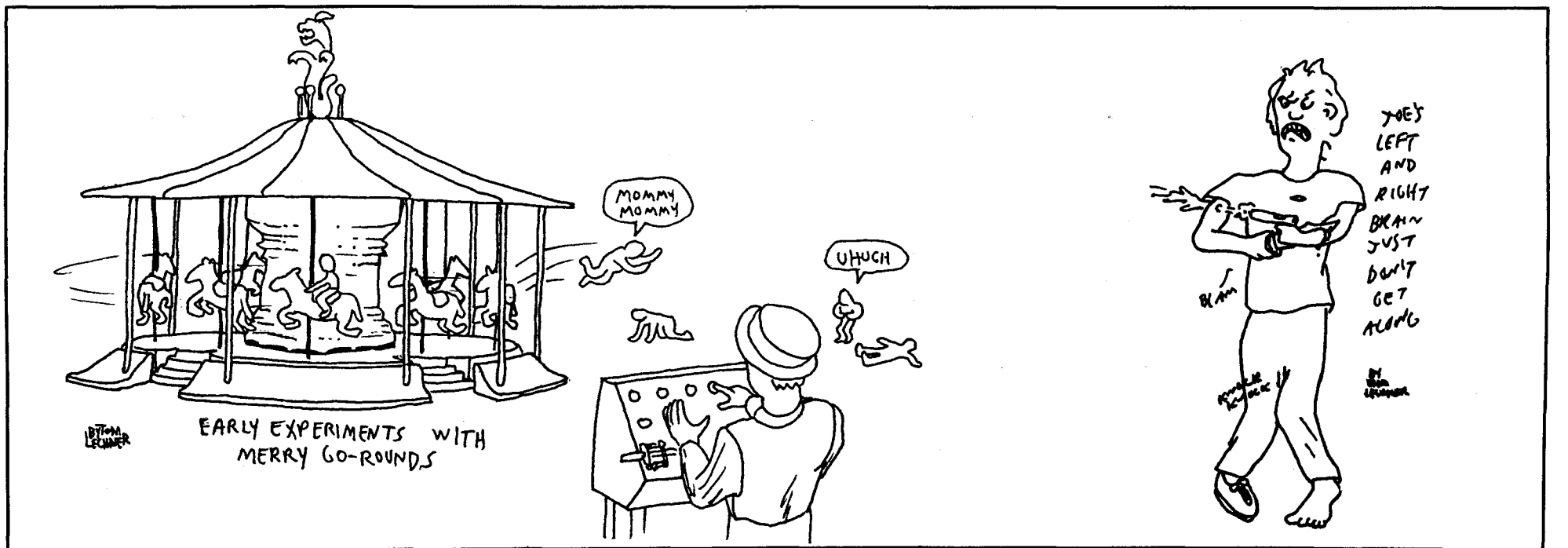
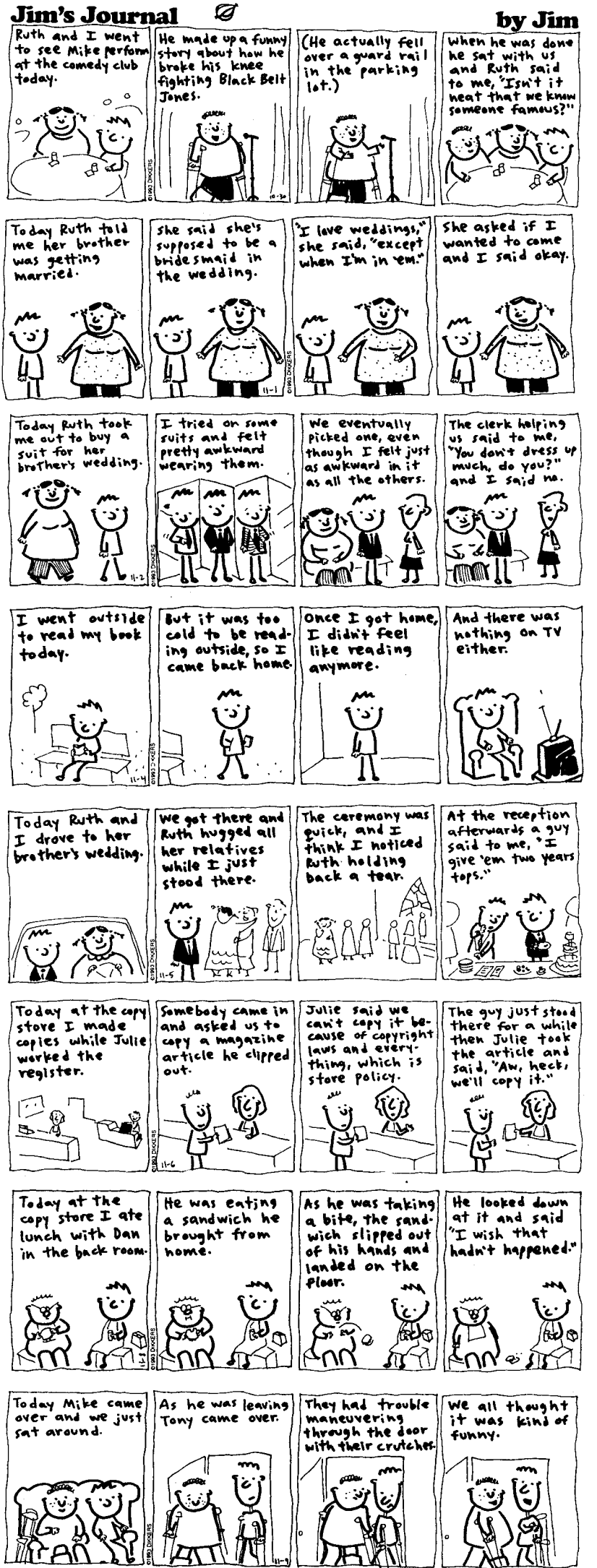
by Bill Amend





Dilbert® by Scott Adams

BIG COMIC ACTION



Vote Angus Young for ASCIT President!



Angus Young, True American

ASCIT was founded on a tradition of fine musicianship. However, in recent years, this tradition has begun to fade. ASCIT, to be blunt, has fallen into shambles.

Angus Young plans to change all that. Mr. Young was a founding member of the seminal rock and roll ensemble AC/DC, and has been certified as a Guitar God by a no less an authority than Pope John Paul II.

Angus vows to make ASCIT more responsive to the needs of the Caltech undergraduate community. He will make friends with the Administration. He will symbolize Truth. Honor. Innovation. He will, in short, be a walking civics textbook.

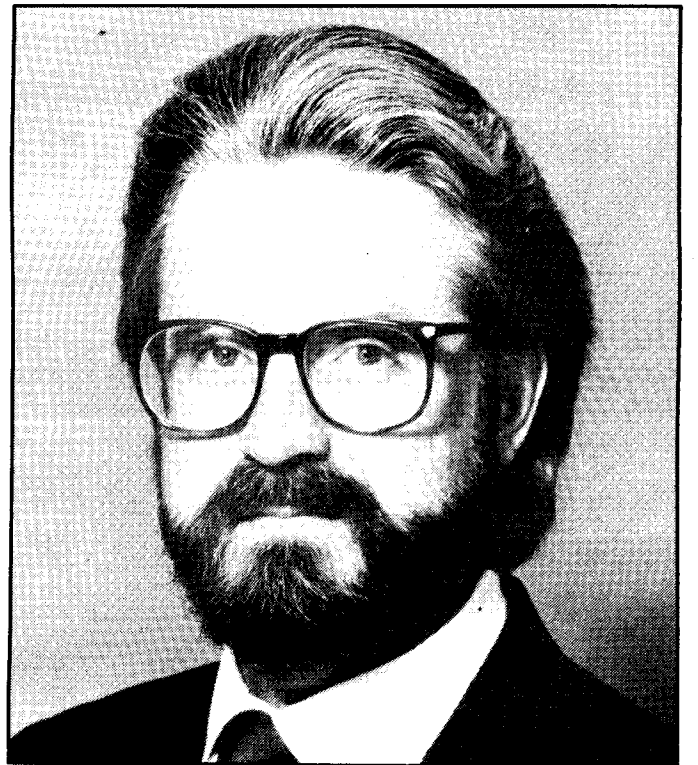


Angus Young, guitar legend

Angus promises many things, but you can be sure he will deliver. After all, this is the man who co-wrote such memorable tunes as "Highway to Hell", "Dirty Deeds Done Dirt Cheap", and "My Baby Is A Responsible Student Leader."

Won't you join Angus Young in remaking ASCIT? Won't you

Write in ANGUS—ASCIT Prez



Angus Young, your next ASCIT President

ASCIT election special

The excitement and spectacle of the ranked-preferential voting system

by David R. Derkits

The ranked-preferential system, which was approved in June 1993 as a bylaw amendment, was designed to make the election process more efficient and accurate. The old system relied on initial elections followed by runoffs, when necessary, between the top candidates. The preferential system incorporates the runoffs into the initial election by allowing the voter to rank the candidates for a given office in the order he prefers. It was used successfully in the previous class officers election.

A sample ballot for one office is shown. On the right is the list of nominated candidates for the office; each is represented by a letter beside the name. On the left are several numbered blanks; these are the ranks. For the first rank (1), the voter can choose from the list of candidates and enter the appropriate letter, write in another indi-

vidual, or vote "NO." He may also abstain, but all blanks after an abstention should remain blank. In general, "NO" is used when the voter believes that *none* of the listed candidates is worthy of the office. For the second and lower ranks, the "NO" vote and write-ins are not allowed. The remaining nominated candidates should be ranked (by their letters) in the preferred order. No candidate may be ranked twice or equally with another candidate. The voter may abstain at any rank level, but all lower ranks should be left blank.

The counting for each office proceeds as follows. All of the ballots are sorted and distributed according to first rank votes. If "NO" receives more votes than each and every candidate, there will be a vacancy in that office. If not, the "NO" ballots are redistributed according to the second rank. If a candidate now has a majority of all non-abstaining votes, he wins. If

not, the ballots for the candidate with the fewest votes are redistributed according to the candidates ranked next. This process continues, eliminating one candidate at a time, until a candidate wins with a majority of votes. This is the general idea behind the count process; a more detailed description can be found in Article VIII of the ASCIT Bylaws (check the *little t*).

Although it looks a little complicated, this voting system is actually quite straightforward, at least from the voter's point of view. And at Caltech, with our small student body, *your vote does count*. In the elections for 16 offices in 1993, there were three ties. These are cases in which one extra voter could have changed the outcome of the election. So take the time to look over the candidates' statements, and make sure you vote on Monday, because—as we'll see again this year—your vote will make a difference.

ASCIT presidential election information

by David R. Derkits

The ASCIT Presidential Election will be held this Monday, January 24, 1994, from 10:00 A.M. until 10:00 P.M. The candidates for the three ASCIT offices are:

President

Angie Marie Bealko
Christopher DuPuis
Jon McDunn

Vice-President/BOC Chairman

Chris Bryant

Tech Editors

Cherish Bauer
Jeff Denniston
Ken Lee
Tom Grundy
Wei-Hwa Huang

team of five

Statements from the candidates appear in this issue of the *Tech*.

By unanimous vote, the Board of Directors has approved a third bylaw amendment for vote in this election:

Amendment #3

Fringe Benefits

Add Article V, Section 4:

At the end of their term of office, the officers of the Associated Students of the California Institute of Technology, namely the Board of Directors, the Executive Committee Chairman, the Election Chairman, and the California Tech Editors, shall embark on a sojourn to an island of verdant, rolling hills in the North Atlantic, adjacent to England, to formally terminate their term of office. The excursion

must occur during the break between the second and third terms of that academic year, and shall be paid through surplus in the ASCIT budget.

If passed, this amendment shall take effect immediately.

All undergraduates may vote for the Vice-President/BOC Chair, but only ASCIT members may vote for the President, *Tech* Editors, and the proposed bylaw amendments. If you are an undergraduate, you are an ASCIT member unless you have specifically asked not to be one. Ballot boxes will be available in the lounges of all seven houses. For those who expect to be absent on election day, absentee ballots are available from the ASCIT Election Chairman, David R. Derkits (come by Page 130), and must be turned in by midnight prior to the election. No person may fill out or cast a ballot for another individual. Note that, with last year's change in the election bylaws, the Ranked Preferential System will be used in this and all future elections; please read the other election article (this page) for important information on this voting procedure. Questions or concerns may be directed to the Election Chairman, David Derkits, at dderkits@cco, Page 130, or x1402.

Editor's note: Matt Metz's name does not appear on the ballot for ASCIT President, since he apparently failed to nominate himself before the official deadline. We have chosen to print his campaign statement with the others, but this does not imply any recognition by the Election Committee.

SAMPLE BALLOT



ASCIT Wethead

1 _____
(#1: Candidate, NO, Write-in, or Abstain)

(#2-#5: Candidate ONLY, or Abstain)

2 _____
3 _____
4 _____
5 _____ (use #5 only if necessary)

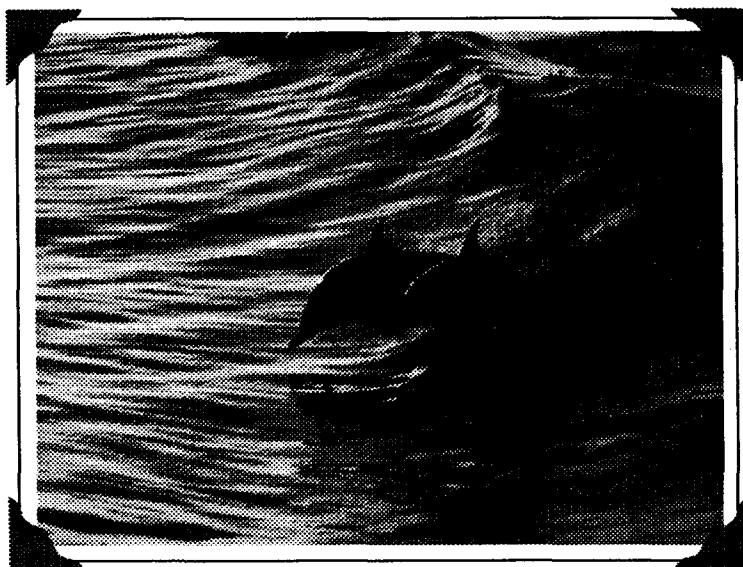
Candidates are:

A. Jon Lange
B. Dave Jeitner
C. Q
D. Hoyt Hudson
E. Cthulhu

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ASCIT PRESIDENT

Angie Marie Bealko

Trust. In my opinion, this word embodies the entire foundation on which leadership was created. Without trust in our leaders, we accomplish nothing. For this reason, I, Angie Marie Bealko, ask for your support in the upcoming ASCIT Presidential election.

I believe that the key to being a good ASCIT leader is to possess not only a strong desire to serve the Caltech community, but also enthusiasm and dedication. As ASCIT President I would represent the undergraduates at the Faculty Board meetings and the Alumni Association gatherings. As a representative of your ideas and suggestions, I will be fair and very open minded. I strongly believe that every opinion is valuable and should be heard.

As a member of the ASCIT Board of Directors this past year, I have already asked many of you for your input as to how life at Caltech can be improved. I also worked hard to publish the U.R.O.H. a month earlier than usual so that each of you could pursue research jobs as soon as possible. Presently, I serve as a member of the Caltech Y Excomm and as one of the volunteer activities coordinators. In addition, I am the treasurer for the Society of Women Engineers.

As you can see, over the past year and a half I have had the opportunity to experience almost every aspect of various leadership positions. This experience has proved to be extremely valuable to me. Such experience would be an even larger asset for an ASCIT President.

I believe that a good leader does not rule with an iron fist and give orders. A good leader brings out the best in others; listens; and keeps the group as a whole focused and organized. As ASCIT President I want to make this type of leadership a reality.

I think Caltech students should and need to have a stronger voice in what the future holds for their school. If I am elected I will work hard to make your voices heard and heeded.

So as you cast your ballots on Monday, I hope that you put your trust in me and vote for Angie Marie Bealko as your next ASCIT President.

Chris "Godot" DuPuis

When I was just a little lad, my father said to me: "My son, you must always remember that political power grows out of the barrel of a gun." So, I spent the next several years putting fertilizer into gun barrels so I could grow some.

O.K., perhaps that's not strictly true. Or true at all. Anyway, since I didn't feel any great joy at the prospect of voting for the other candidates, I decided that running for the office myself was a much more effective method of expressing my opinion than just voting for Angus.

I suppose that I should give a bit of my personal background here, since it seems that candidates for office generally do. I'm a junior majoring in geology, and I'm just finishing my year as part of the

Triumvirate of Tech Editors. I enjoy playing guitar and piano, not well, but with great enthusiasm. I prefer Parliament to Meat Loaf.

Having said this, I just want to add a bit of literacy to my campaign, so, without further ado:

*We never valu'd this poor seat of England;
And therefore, living hence, did give ourself
To barbarous license; as 'tis ever common
That men are merriest when they are from home.*

*But tell the Dauphin I will keep my state,
Be like a king, and show my sail of greatness
When I do rouse me in my throne of France.
For that I have laid by my majesty
And plodded like a man for working-days,
But I will rise there with so full a glory
That I will dazzle all the eyes of France,
Yea, strike the Dauphin blind to look on us.*

—William Shakespeare
Henry V, Act I, Scene ii

And finally:

"If you think things are bad right now, just wait till I get through with it."

—Groucho Marx
Duck Soup

Jon McDunn

My name is Jon McDunn and I am running for ASCIT President.

I would like to be ASCIT President for many reasons, but to keep your attention, this list is limited to two.

First, I know a lot of students and try to keep up with what is going on in several houses. Because of this, I feel comfortable running for a position where I would be representative of the entire student body.

Second, I think my experiences here have prepared me well for this position. My previous experiences on committees and as an ombudsperson have prepared me for some of the duties of ASCIT President. Namely representing student interest on the SURF Advisory Council and various Alumni committees. However, this experience is not enough to base my candidacy on. The ASCIT President has to take initiative. This can arise in many ways, but the most obvious are: setting up and maintaining dialogues between students and the faculty or administrators, and identifying and addressing problems. I have not had any experience in the former, but after serving as Ruddock House Treasurer and Damage Rep, and as Director for Academic Affairs, I am familiar with taking input from many sources and synthesizing it into a few, feasible recommendations. I also am familiar with which parts of the administration are responsible for which things, and have worked with many offices (Housing, Deans', Registrar's, Student Affairs, Institute Accounts). Putting these things together, I feel confident that I could take any concern to the appropriate member of the faculty or administration and at least attempt to resolve the issue.

My main goal for ASCIT, if I am elected, is to make the BOD and its pursuits a more visible and hopefully more effective part of undergraduate life.

I hope you strongly consider me as a candidate for ASCIT President and if you have any questions or concerns, please get in touch with me before Monday (x3760 or caribou@cco).

Thank you.

candidates' statements

Matt Metz

One of my top priorities if elected to the office of ASCIT President will be to restore the attitude of partnership which used to exist between the Caltech faculty/administration and the students. Recently a decline in some of Caltech's greatest assets has been seen. Professors are losing faith in the Undergraduate honor system, and many undergraduates feel that they are not an important part of their professors' schedules. There is also a growing feeling of antagonism between the students and the administration concerning new policies and old traditions. Working on these problems will be of benefit to the entire Caltech community. I will work to mend the relationship between students and staff at Caltech.

I feel capable of performing the duties of ASCIT President to the advantage of every undergraduate, and will bring a new perspective to the student government. Vote Matt Metz for President.

VICE-PRESIDENT/ BOC CHAIR

Chris Bryant

The primary duty of the ASCIT Vice-President is to chair the Board of Control. I began serving on the Board of Control as the Ruddock House Representative last year, and since that time I have gained a deep respect for and sense of pride in our Honor System. The Honor System at Caltech is unique and special, nothing else like it exists at any other school. I really think it is something to be proud of that we as students can demonstrate that we have the responsibility to not just govern our own lives, but to govern them fairly and judiciously with a sense of compassion. These are things that I have learned since being a member of the Board.

Our Honor System is forever changing—it grows as we grow. We can see this evidenced in how

our standards of acceptability change. In some areas we are afforded more liberties, in others we need to show more restraint to function as a part of the community. I would like to be a determining part of that Honor System; I would like to help it grow with the students, to meet the needs of the student body. Above all I would like to help to preserve it for future Caltech students in the hopes that they can enjoy it and gain as much from it as I have. The personality of the Chair has a large effect on the Honor System and how it is upheld. I hope to bring my sense of leadership and responsibility to that office, along with a lot of enthusiasm, to serve the Caltech community to the best of my abilities.

As ASCIT Vice-President, and a member of the Board of Directors,

see STATEMENTS, page 10

Fight Child Labor!



Because nobody has stepped forward to assume the mantle of Tech Circulation Manager, we have been forced to thrust the job upon James McLeod, 2. He will begin delivering the Tech this week, pulling the heavy stacks of papers behind him on a sledge as he crawls upon his raw little hands and knees, his bones deformed and stunted by the heavy yoke. Please, help poor little James. Come to the Tech meeting at 12:15 P.M. today and tell us that you'll save this innocent child from such a tragic fate by volunteering for the prestigious and high-paying job of Tech Circulation Manager.

sports

Beavers hopeful despite three losses

by Bryce H. Elliott

Three games into the SCAIC season, the Beavers are still winless, but have made great strides toward ending the conference drought. Caltech was shellacked 85-47 during its first outing against Pomona-Pitzer, as the Sagehens used an eleven-deep bench to bring a relentless onslaught of fresh bodies against the weary Beavers. Sophomore sensation "Sneaky" Steve Tsai was the lone bright spot, scorching the nets for 20 on eight of twelve shooting.

Saturday night saw Tech on the road in La Verne for the first time in the SCAIC season. The first half found the Beavers looking up at a 21-point Leopard advantage, but the Beavers regrouped at halftime, and made the second half exciting. Caltech couldn't make a real run at

the balanced attack of the Leopards, who had six players in double figures as they put the Beavers away 97-68. Two-time All-SCAIC forward George Papa rebounded from a poor first outing to score 24, grab eight boards, and dish out seven assists, while teammates Josh "MJ" Moats and Tsai added 12 and 16, respectively. John "Pimp Daddy" Parks cleaned the glass nine times to lead Caltech in rebounding.

This Wednesday, the Beavers had a short road trip down the freeway to face the Occidental Tigers and All-American Blair Slattery. Caltech's swarming defense limited Slattery to eight first half points and the Tigers to just 33, as Tech went into the locker room down only two. After a brief rest, Tsai re-entered the game just before the break, forced two Oxy

turnovers, and helped the Beavers cut an eight-point deficit before missing a tough shot to end the half. Parks drew first blood in the second stanza, tying the game on a jump hook over Slattery. Occidental shortly opened up a nine point lead, which Tech cut into several times, but never could eliminate. With about five minutes left, the Tigers rained down a storm of three-pointers, some shot from as far as 25 feet to end any hopes the Beavers had of taking one on Oxy's home court. Papa led all scorers with 23, followed by Moats with 19. Slattery was held to 18, six below his season average, but the Tigers prevailed 76-60.

The next journey into the excitement that is Beaverball will be Saturday night as the University of Redlands Bulldogs come to Braun Center to try their luck against the ever-improving Caltech Beavers. The game starts at 7:30 P.M., but for those of you who just can't get enough, the Junior Varsity game begins at 5:30 P.M.

continued from page 9

Statements

I would like to help influence some positive changes in ASCIT. I would like to involve more people in our student government, and to a larger extent. The idea of having open office hours, which was started by Moeen, is to me an excellent method of opening up ASCIT to the general student body. I would like to continue and expand upon this idea by having office hours of my own. I think it would improve the communication between the Board Chair and the community, giving everyone a chance to discuss issues that concern them. There has also long been the idea that a weekly column in the *Tech* that focused on the Honor System would be beneficial. I think that such an article, if it was written not

to preach, but to discuss and inform, would serve the community by furthering the educational goals of the Board.

The ASCIT V.P. serves on a number of faculty committees, which I would look forward to in earnest. I always enjoy meeting with the faculty—when the faculty appreciates the students and the students appreciate the faculty, Caltech functions at its highest level. Both the students and the faculty have a lot to gain from that.

The office of ASCIT Vice-President/BOC Chair is a very important one in Caltech's student government. We have seen over the past few years some excellent people serving in this office. I hope to join their ranks and contribute my efforts to the role of ASCIT Vice-President, and to offer my abilities and experience to the Board of Control. Thank you.

THE CALIFORNIA TECH EDITORS

**Cherish Bauer,
Jeff Denniston,
Ken Lee, Tom
Grundy, and
Wei-Hwa Huang**

Preparing and publishing a regularly printed newspaper, no matter what its size, is without a doubt a task requiring dedication, spirit, and pride in a job well done. All of these qualities, and more, can be found in every member of the team which would like to announce its candidacy for the editorial position of *The California Tech*.

The team is comprised of Jeff Denniston, an upperclassman with a year of experience working on the *Tech* staff, along with Cherish Bauer, Ken Lee, Tom Grundy, and Wei-Hwa Huang, all incoming freshmen with various levels and types of literary and administrative experience. This editorial staff

promises to be a new and innovative one, with plenty of enthusiasm, experience, pride, and dedication to offer.

Each of these students has benefited their high school newspaper in some way, whether as a contributing journalist, a layout planner, or an active member of the editorial staff. Now the opportunity has arisen to let this team benefit Caltech as well.

**Momo Jeng,
Momo Jeng,
Momo Jeng,
Momo Jeng,
and
Momo Jeng**

My name is Momo Jeng. My favorite track from *Abbey Road* is "Something." It has a beautiful bass line, and the singing is great.

continued from page 1

Lawson

After nearly a spoken volume of recollections and historical stage-settings, Reverend Lawson brought in his planned theme, movingly, if only for a minute. "We do not expect utopia," said the reverend. "If the problem of crime is solved twenty years from now, I do not expect that other problems will

not arise. But that is the way the human race, during these several million years, has done things—each generation trying to leave something, to liberate for the one after it."

"I ask the students: what is your main concern here?" Lawson continued: "Is it to take your wonderful degree from Caltech and go from job offer to job offer all around the world? Or is it to contribute to the human race?"

Fewer than five undergraduates were present that Martin Luther King, Jr., Day to hear Lawson's exhortation: "Make technology that fits a human need." Despite President Everhart's support of King Day, this support was made public not in a campus-wide mailing, but in a little-read editorial in the January 14th edition of the *Tech*. As a result, many faculty members were not made known of the day's events, and King Day—like other holidays at Caltech—went unobserved by most on campus.

Frequent aftershocks shook the auditorium during Lawson's forty-five-minute speech.

Reverend Lawson's speech was a part of the Race, Politics, and Region seminar series of the Division of Humanities and Social Sciences.



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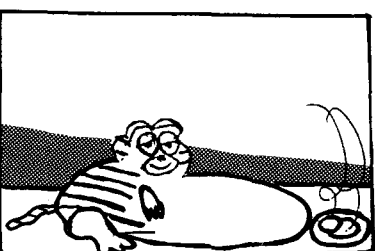
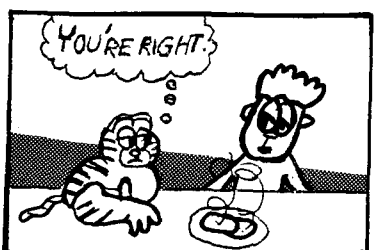
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King

Baptist. King had turned 28.

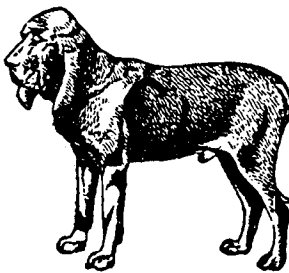
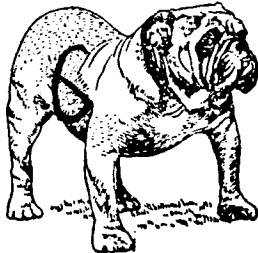
Just as his career was beginning, Caltech decided to ask him to speak here in Pasadena. He was the age of most graduate students at the Institute, barely 29, when came to the campus for three days in February of 1958. When he arrived on Tuesday the 25th, he gave a speech in Dabney Hall. That night, the only two Negroes in the audience were Lee F. Browne and his wife.

"We must have active commitment rather than mere academic acceptance if we are to solve the racial problems that face Americans today," Dr. King stated. "There are challenges to be met if the new order is to survive. The first is to rise above the narrow confines of individual concerns to the broad concerns of humanity."

That Wednesday and Thursday, Dr. King ate dinner in the Houses and spoke to undergraduates. He had an opportunity to see how they channeled their creativity.

"There are four things that the Caltech student could do to help the racial situation," King began in an interview with the *California Tech* that year. "He should seek to give impetus to movements and to political leaders. He should seek to solve local problems. He should give support, both moral and financial, to freedom fighters everywhere. And finally, he should help to educate himself and others. Very few people are totally free of misconceptions about Negroes."

These words were spoken almost 26 years ago. Many professors, students, and faculty like to conjecture on what Dr. King would have wanted if he were alive today. We need not speculate anymore, for he has told us. We should support the leaders of this campus, such as Dr. Sharyn Slavin, who strive to change this campus for the better. We should solve the problem of the barrier Caltech has with the local African-American and Latino communities here in Pasadena. We should support the offices on this campus that support cultural awareness. Let us not forget that the Caltech Y began the "Leaders of America," and it has the vision to continue to create programs that are equally important. At the very least, we should educate ourselves in fields other than science and mathematics. Even the brilliant Caltech student can stand to learn about someone who pleaded a quarter of a century ago that we make a difference in others' lives. Celebrating King's birthday through a recess of classes is more than a vacation; it is a celebration of humanity everywhere.



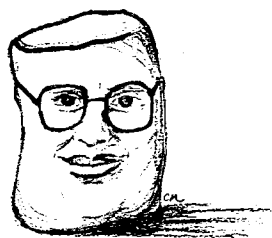
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Volcano

is reflected in the drill core by alternating sections of submarine and subaerial lava.

In addition to the National Science Foundation, the U.S. Geological Survey and the Department of Energy are also supporting this project through the Interagency

Coordinating Group that oversees large projects of this sort for the three agencies. Scientists from the U.S. Geological Survey and several other universities in the United States, France, and Germany, will be involved in analyzing the lava samples and the data from the project.



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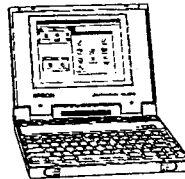
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* Note: asterisks denote new announcements.

Notices

The New Ballroom Dancing Club—In a joint effort of the Caltech Y, ASCIT, and the Caltech Service League, we resume the activity of the New Ballroom Dancing Club. Classes will be taught by Bill Bartlett, who is a first class performer and teacher. It is a golden opportunity to learn how to Waltz, Fox-Trot, Rumba, Samba, and more, for free! Classes begin Thursday, January 27, 6:30 P.M. at the Winnett Lounge. No previous experience nor a partner are necessary. For information, please contact Sharon Kedar x6971, sharon@seismo.gps.caltech.edu.

Senior Pictures—Seniors, don't forget that senior photos should be sent to the Big T, Mail Code 27-58, by February 1. Please include your name, major, and home town, exactly as you would like it to appear. We're sorry, but photos will not be returned. If you have any questions, e-mail Christy, christy@cco, Nestor, no@cco, or Karen, shishi@iagi.

Southwest Museum—The office of International Student Programs is offering a guided tour of the Southwest Museum on Saturday, January 29. The Southwest Museum presents the remarkable cultural diversity of America's earliest inhabitants. On display are examples of Indian art and artifacts; Pre-Columbian pottery and textiles; Hispanic folk and decorative arts and much more. The tour is open to the entire Caltech community, but the number of free admissions is limited. For more information and to sign up, stop by the ISP office or call x6330.

Attention Climbers! La Sportiva and Rudy Hofmeister are planning a climbing shoe demo day on January 31st at the Caltech climbing gym. The event is scheduled from 5-8 P.M. Flyers will be posted around campus and will indicate any changes in schedule. This will be the ideal time to visit the gym and try out all of Sportiva's latest equipment. Bring your friends. Contact Rudy Hofmeister x4413 for further info.

Science, Ethics, and Public Policy Seminar—Dr. Linda Schiebinger, Professor of History from Pennsylvania State University, will speak on "Why Mammals are Called Mammals: Gender Politics in Eighteenth-Century Science," Thursday, 27 January 1994, at 4:00 P.M. in the Judy Library, 110 Baxter. Refreshments will be served.

The Big T is cleaning its shelves. If you would like back issues of Caltech's yearbook, we have copies from 1976 to 1993 for \$30/copy. Send your name and mailing address with a check to the Big T, Caltech, MC 27-58, Pasadena, CA 91125, or call x2183.

False Memory Syndrome—The Skeptics Society presents Dr. John Hochman, forensic psychiatrist and expert on therapy cults. Sexual abuse is now considered by many to be nearly epidemic, with some demographics suggesting that nearly 1/3 of all women were abused as children. Repressed memories of childhood sexual abuse are surfacing with increasing regularity in therapy situations. Are the growing stories of often violent and elaborate sexual abuses evidence of widespread crimes against humanity? Are this many children really abused? Can the mind really repress memories and then recall them in vivid and accurate details decades later? Or is this a social movement analogous to the witch trials of the Middle Ages, where memory is acquired and the accused are automatically considered guilty. Dr. Hochman considers whether these are repressed memories or false memories planted by therapists. The presentation will be Sunday, January 23, at 2:00 P.M. in Baxter Lecture Hall. Cost is \$5 for members and students and \$8 for nonmembers.

Events and Notices

Lift beautiful girls, shake some maracas, and have a great time. TACIT needs 4 able-bodied men for some on stage work and various other people for backstage work. Undergrads get credit. Call x6259 and leave a message

Events & Services

Building Self Esteem—A group focusing on Self Esteem will be offered to undergraduate students beginning January 26, 1994. The purpose of this 8 week long group is to help students examine the nature and development of self esteem. What prevents a person from feeling "good enough" and strategies for developing stable and enduring self esteem will be explored. The group will meet on Wednesdays from 3:30-5:00 P.M. Group membership is limited. Those who would like to participate in the group will be required to meet with the group leaders prior to the group's first session. For more information or to arrange a meeting with the group leaders, please call Virginia at x8331.

Gay, Lesbian & Bisexual Support Group—Meets the first and third Tuesdays at 7:30 P.M. in the Health Center Lounge. This confidential meeting is open to all Caltech community members looking for a supportive context in which to address questions and concerns about sexual orientation—including coming out, being out, self-discovery, coping with families... We begin with a focus topic but move to whatever is feeling most relevant to the group that night. Refreshments are served. For information, please call x8331.

Adults Molested as Children Group—This is an ongoing group for undergraduate and graduate women at CIT who were molested as children. The group is designed for women who experienced any form of incest which could include family members or other caregivers physically, emotionally and/or verbally sexualizing the relationship with them in childhood or adolescence. The group will provide a safe and confidential setting in which to explore the issues of trust, self-esteem and intimacy. Each group member needs to meet with the group leaders for pre-group interview in January; the group will begin in February and will meet at noon on Tuesdays from noon to 1:30 P.M., in the Health Center Lounge. For more information or to schedule a pre-group interview, please contact Aimee Ellicot, Ph.D. or Jenny Butler, Ph.D., at x8331.

Dark Room Users' Group presents black and white printing class Saturday, January 22, 1 P.M. in the dark room (SAC 39). Everyone welcome. For more info, contact Tim Shoppa x4327 or e-mail/finger drug@cco.caltech.edu.

* **German Film Series**—The next film to be featured in the German Film Series is *Dr. Mabuse, Der Spieler* (1921). The film features English subtitles and is shown free of charge. It will screen on Thursday, January 27 at 7:30 P.M. in Baxter Lecture Hall. For further information, please call x3610.

Caltech Alpine Club "Sit and Chat"—Bring a sack lunch to the patio outside the north end of Keck Laboratory on Wednesdays from 12 to 1. Talk about mountains, the weather, and outings, past and future.

Caltech Velo—The Caltech Bicycle Club Thursday, January 27 at Noon in room Winnett Lounge. The club organizes all types of rides, both road

and off-road rides, for all skill levels, from novice to advanced, including collegiate racing. All cyclists are welcome. We lead the following weekly rides, all meet in front of Winnett Lounge:

Monday, 8:00 A.M.—25 miles, moderate pace
Tuesday, 11:30 A.M.—10-15 miles, easy pace
Wednesday, 2:00 P.M.—Off-road ride

Plus other harder rides not listed. For more information, contact Michael Kantner at x4882 or e-mail to cycling@cco.caltech.edu.

Friday Prayer—Prayers organized by Caltech Muslim Students are held in the Caltech Y lounge at 12:15 P.M. every Friday.

Mass—Catholic campus life includes Mass on Sunday at 10 A.M. (Winnett Lounge) and on Thursday at 8:15 A.M. (Y Lounge), Rosary at 11:15 A.M. daily in Winnett 1A, and various spiritual development groups and study circles. For more information contact Fr. Brian Wilson at x6212.

Bible Study and Discussion—Every Wednesday at noon in the Y lounge. Bring your own lunch. For more information call Mike Gerfen at x4886.

OpenLine—A group made up of students, staff, and faculty from many different departments on campus, and from a variety of ethnic and cultural backgrounds. We are both an action group and a discussion group. Our agenda is very flexible and is solely determined by what people in the group suggest. Drop by any meeting and say hello! We meet from noon to 1 P.M. on Tuesdays in the Y Lounge (2nd floor Winnett, feel free to bring your lunch!). Remember, we *always* welcome new people, at any time of the year. Hope to see sometime! For more information contact Gary Mines at x6542 (gam@xhmeia.caltech.edu).

Caltech SEDS (Students for the Exploration and Development of Space) will meet Monday, January 24th at 7:20 P.M. in Downs 107, to discuss plans for this coming term, including field trips to Rocketdyne and to Edwards Air Force Base, potential speakers, educational outreach activities, and SEDS's plan to propose a \$4 million student-built satellite (see below). Refreshments will be served, and all members of the Caltech community are invited. Contact Ben McCall at x2902 or bjmc@cco. Caltech SEDS meets every Sunday evening at 8 P.M. in 107 Downs to discuss and plan for its \$4 million satellite proposal. Help is needed from undergraduate and graduate students, and advising is needed from research fellows, faculty and staff. Experience with space hardware or with the specific experimental subsystems (gamma-ray astrophysics and atmospheric chemistry) is not necessary. All members of the Caltech and JPL community welcome. Contact Ben McCall at x2902 or bjmc@cco.

Baby Furniture Pool—The Caltech Service League loans out baby furniture to students and postdocs on Wednesday at 324 S. Chester from 10 to 11 A.M. For more information call 952-1631.

Israeli Folk Dancing—Sundays in Winnett lounge. Beginning instruction starts at 7:30 P.M., intermediate at 8:00 and open dancing goes on from 8:30 to 10:30. For information call Nancy Macmillan at 795-3655. Admission is \$2.00.

Scottish Country Dancing—On Wednesdays in Dabney Lounge from 8 until 10 P.M. Beginners are welcome and no partners are needed. For more information call David Hills at 354-8741.

Music with James Boyk—Pianist James Boyk gives a performance each Wednesday from 4:30 to 6 P.M. in Dabney Lounge. The performance is open to the public and free of charge. Feel free to come late or just skulk. For more information call x6353.

Open House—The office of International Student Programs (ISP) would like to invite international students, scholars, and the Caltech community to coffee, tea, and conversation every Wednesday from 4-6 P.M. Take a break and relax with friends at ISP (Lloyd House on the Olive Walk).

Lectures & Seminars

* Y. P. Fang, Technical Director of the Simpson Paper Mill, will deliver a lecture on the **Technical Aspects of Paper Recycling** on Wednesday, January 26 at 11:30 A.M. in the Judy Library in Baxter. Lunch will be provided. Sponsored by CETF.

Science, Ethics, and Public Policy Seminar—Dr. Linda Cohen, Olin Visiting Fellow in Law and Social Choice at Caltech and an Associate Professor of Economics at UC Irvine, will lecture on "Research, Innovation, and President Clinton's Technology Policy," on Wednesday, February 9 at 4:00 P.M. in the Judy Library, 110 Baxter.

Scholarships, Internships, & Competitions

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

The **Institute of International Education** is pleased to announce the National Security Education Program for undergraduate scholarships for the 1994-95 academic year. Please contact Barbara Green in the Dean's Office at x6351 for details.

The **National Academy for Nuclear Training** is beginning its competition for scholarships for the 1994-95 academic year. Scholarships are available to U.S. citizens who are pursuing a bachelor's degree in nuclear engineering, power generation, health physics, or mechanical, chemical, or electrical engineering with a nuclear or power option, and who are beginning their sophomore year. Preference will be shown to students considering careers in the nuclear power industry. Applicants must be enrolled full-time and a minimum GPA of 3.0 is required. *The completed application and all other required documents must be submitted no later than January 21, 1994.*

The **Association of State Dam Safety Officials, Inc. (ASDSO)** is offering two scholarships, in the amount of \$2,500 each, to be awarded for the 1994-95 school year to one junior and one senior undergraduate student. Successful recipients must be enrolled in a civil engineering program, or in a related field as determined by ASDSO, and must demonstrate an interest in pursuing a career in hydraulics, hydrology, or Geo-technical disciplines, or in another discipline related to the design, construction, and operation of dams. Also a GPA of 3.0 is required. *Applications must be received by ASDSO no later than January 30, 1994. Announcements of successful candidates will be made in the spring of 1994.*

The **GLAMOUR Magazine Top Ten College Women Competition** has begun. The competition is open to all women who are full-time juniors regardless of major or GPA. *All entries must be postmarked by January 31, 1994.*

The annual **Mensa Scholarship Essay Contest** is here again. The essay should present clearly and concisely the applicant's academic, vocational, and career goals. The only requirement is that the student be enrolled at an accredited college/university for the 1994-95 award year. *All entries must be postmarked on or before January 31, 1994.*

The **Korean American Scholarship Foundation** is offering two scholarships of \$10,000 each and over 20 scholarships of \$1,000 or higher. Applicants must be full-time students of Korean heritage. Applications are available upon written request from KASF Western Region Office, 4424 Dulcinea Court, Woodland Hills, CA 91364. *Completed applications must be received by January 31, 1994.*

The **Society of Women Engineers** is seeking qualified applicants for thirty-six scholarships varying in amounts from \$1,000 to \$4,000. *Applications and supporting documents must be postmarked no later than February 1, 1994.*

The **Society for the Advancement of Material and Process Engineering (SAMPE)** has begun its 1994 Undergraduate Award Program for students pursuing a BS in engineering. The awards are for recognition of past and present college scholastic and technical achievement and future potential. Applicants must have at least one semester of grades in that program by February 1, 1994, must be recommended by his or her department head, and have a 3.30 minimum cumulative grade point average. *Completed application packages must be postmarked no later than February 1, 1994. Awards will be presented in July of 1994.*

The **College Women's Club of Pasadena** is offering scholarships for the 1994-95 academic year. Applicants must be full-time students and have a GPA of 3.0 or above. To apply, please submit a completed application form; one page, typed, personal essay; transcript of college work to date including course commitments; and three recommendations, preferably from professors familiar with a student's aspirations and achievements. *Completed application packets must be returned to the Financial Aid Office on or before February 4, 1994.*



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*All the time.
Seven days
a week.*

BREAKFAST BUFFET Mon-Sat \$3.95

LUNCH with soft drink **\$4.95**

DINNER with soft drink **\$6.25**

Breast of chicken, seafood, lamb, or the day's special

SPECIALTIES

Shish kebab Shaorma Souvlaki steak

Fresh fish and lamb Baklava

Homemade pizza Gounnet hamburgers

We cater for all occasions

535 S. Lake Ave.

(818) 792-6634

**HEAR THE
WEDNESDAY NIGHT
JAZZ BAND**

Mondays – Half price margaritas.

Tuesdays – Beer half price.

Wednesdays, Thursdays 3-7 P.M.