

The California Tech office will be moving to Guadalajara, Mexico over the Thanksgiving break. Our new address will be:

15-E La Caille de la Izquierda
Guadalajara M34-814

The California Tech

La oficina de La California Tech se mudará a Guadalajara, México durante las vacaciones de Acción de Gracias. Nuestra nueva dirección será:
15-E La Calle de la Izquierda
Guadalajara M34-814

Volume XCV, Number 9

Pasadena, California

Friday, November 19, 1993

Avery House update

by Margaret Belska

Hopes are high that this year's freshman class may have the opportunity to live in Avery House, also known as Centennial or C House, during their senior year. Avery will be a housing development that is meant to mix undergrads with grads and faculty and "be a center for community interaction for the whole campus," said Gary Lorden, Vice President for Student Affairs.

If all goes well, the project is planned to open in the Fall of 1996 (just in time to be a part of rotation that year) and will provide housing for over 200 people, including approximately 180 undergrads, 50 grads, and 12 to 14 faculty apartments, although those are only ballpark figures and might vary.

The complex will start about halfway up Holliston and extend all the way to Del Mar and will resemble something like a cross between the South Houses and the Athenæum, with the building sections located around central courtyards. The front section, facing south, will include a commons area with a dining hall that, unlike the current houses, will be open to all students on campus, undergrads and grads, as well as faculty, not just those living in Avery, but unlike Chandler, will have a much more family-oriented atmosphere. There will also be an outdoor eating area, a snack bar that will be something like the Coffeehouse, a computer lab, a library, though it will be more along the lines of a small, comfortable meeting room, as well as other more formal meet-

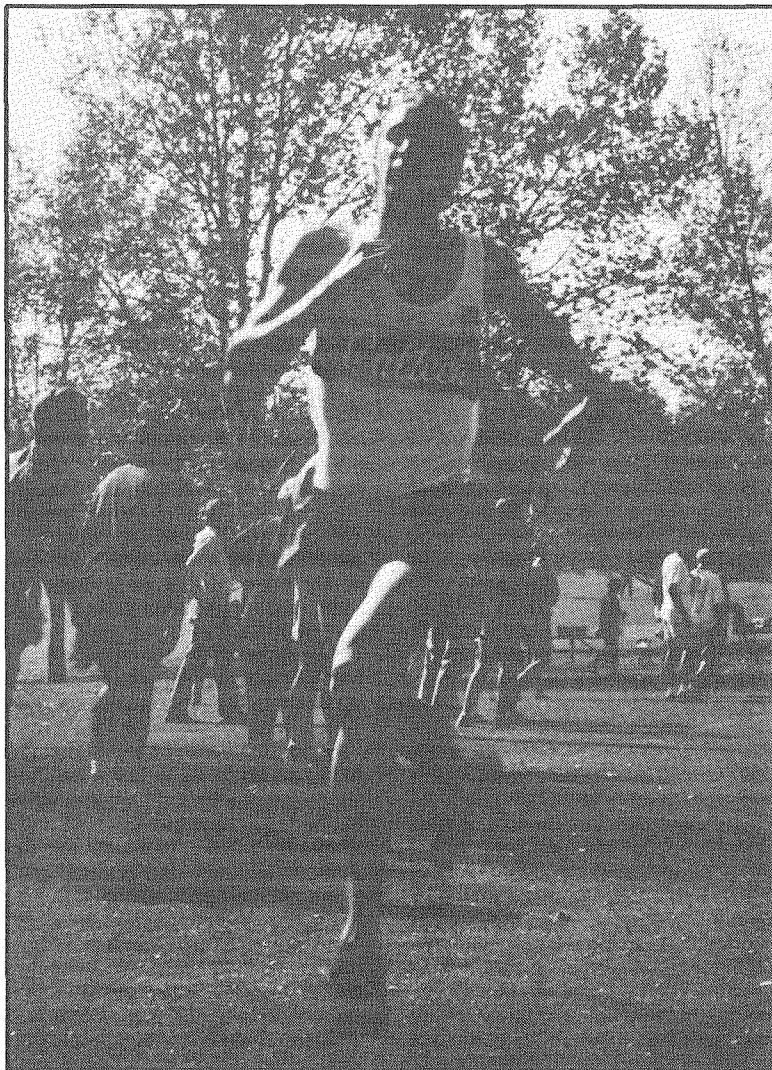


photo courtesy Jim O'Brien

Senior Andy Zug finishes 2nd at the SCIAAC championships, the first time since 1950 (when only five teams were in the league) that a Caltech runner has placed so well.

ing rooms. The complex will also have its own parking with two new lots coming in, one above ground and one below.

The break up of rooms into singles and doubles has not yet been decided, but one possible configuration with 234 students would include 76 single rooms and 79 doubles. The sizes of the rooms are still unclear, but the singles will definitely not be the same broom-closet-size as those in the South

Houses. The distribution of bathrooms still hasn't been determined. Some of the topics under consideration are whether or not to have large group bathrooms, or to have two doubles sharing one bathroom. Another issue is whether each room should have its own sink or not. All these decisions will depend on how much money will be available and how many student rooms there will be. One thing, though, has already

see AVERY, page 2

Andy Zug wins big

by the Athletic Department

The NCAA Regional Championships in Prado Regional Park were conducted under ideal conditions. The cool morning with clear skies and clean air allowed for optimum performances. Claremont-Mudd-Scripps won the meet narrowly over UCSD, 47-48. Caltech managed a 7th place finish in the region with 156 points.

The individual champion was John Castner of UCSD in a very quick clocking of 25:25, nearly 30 seconds ahead of 2nd place. With his 9th place finish, Caltech senior Andy Zug made school history as he claimed one of three coveted individual spots in the National meet by blasting the 8k course in 26:13. Zug worked his way up through the pack continually as the race progressed, going from

25th at mile 1 to 18th at mile 2 and 12th by the third mile. It proved a bit more challenging to continue his climb to the top from that point on, but he had just enough real estate, talent, and determination to garner the honor of representing Caltech at Nationals.

Coach O'Brien is particularly pleased with this development, since it is his first trip to XC Nationals in nine years at Tech. "At the start of the season I had Zug in my office for a little chat about realizing his potential and pulling out all the stops in his senior year in order to get to nationals," said O'Brien. "He dedicated himself totally to this goal and trusted me to assist him in this effort. I am very excited for him and proud beyond words. He is living proof that you can be both a top-flight student and an elite athlete."

ASCIT bylaw changes up for vote

by David Derkits

Two changes in the ASCIT Bylaws relating to the Board of Control have been approved by the Board of Directors and forwarded for membership vote. Only ASCIT members may vote on these amendments (if you are an undergraduate, you are an ASCIT member unless you have specifically asked not to be one). A two-thirds affirmative vote is required for passage of each amendment. The election will be held on Monday, November 29, from 10:00 A.M. to 10:00 P.M. Ballot boxes will be skulking in

the lounges of all seven Houses. Absentee ballots are available from the ASCIT Election Chairman, David R. Derkits (Page 130, x1402) and must be turned in by midnight prior to the election.

The bylaw amendments are:

AMENDMENT 1 Clarification of the BOC article

In Article VII, section 2:

Replace subsection (c) with:
(c) The Board of Control shall appoint two members from the undergraduate student body at large for a term of office not to see BYLAWS, page 9

Student-faculty committees prepare for February conference

by Flora K. Ho

It's taken a while, but the 1994 Student-Faculty Conference is finally in the works. At the conference, you, the student, can voice your opinions and concerns about life at Caltech and be listened to. We will be sending three student-faculty committees: The Honor System, Quality of Teaching, and Improving Communication. The Academic Policies Committee, which has been considering fundamental changes in the core cur-

riculum, will also be making a presentation at the conference.

Each of the committees has met at least once, and to encourage interest and discussion, I'll be writing bi-weekly reports on each one's progress. It's never too late to join a committee—if you're interested and would like to contribute, feel free to call me at 683-9623 or e-mail to floho@cco.

Honor System

Present, November 4: Vicki Brown (co-chair), Frances Chance,

and Roger Moore (students); Peter Fay, Bob McEliece, and David Rutledge (faculty).

Most students and faculty feel that our Honor System is doing its job. Nevertheless, some believe that the Honor System is an ineffective deterrent to cheating, due in part to its broad scope—addressing all facets of Caltech life, not just academics. Does the Honor System really work? If so, how can we augment confidence in it (e.g., through surveys on its effectiveness, or the Faculty/Staff Honor System Handbook)? If not, can we improve it, or should it be removed altogether? The rationale skulking behind certain Board of Control policies (especially concerning methods of nullification) is also a concern for some. Perhaps honor systems at other schools could be investigated and their efficacy compared to our own. The existence, rate, perception, and impact of cheating, along with the Board's

see CONFERENCE, page 11

Howes wins Rotary Ambassadorial Scholarship

by Mike Benedetti

Greg Howes, a Caltech undergraduate, has been awarded a one-year Ambassadorial Scholarship from the Rotary Foundation. The scholarship will provide up to \$20,000 for Howes to study in New Zealand for one academic year.

Howes, a senior in applied physics, plans to attend the Victoria University of Wellington, where he will study geology. Howes chose New Zealand as his destination for

its interesting geology and because "rugby is a big sport there."

The Rotary Foundation Ambassadorial Scholarship was instituted "to further international understanding and friendly relations among people of different countries." Applications may be obtained from local Rotary clubs. Application deadlines are set by the local clubs, and will be between March and July 1994. Rotarians and their children are ineligible for the scholarship.

C.L.U.E. co-editors needed

The C.L.U.E. (Course Listings of Undergraduate Education) will soon be in the works, but two co-editors are desperately needed. The co-editors will gather data, tabulate it, type it in, take it to the printer, etc. If you have computing or e-mail experience, or if you can be skulking here over the summer, it would be a great help, but it is not required. Be forewarned that, although this will be an interesting job, it will be time-consuming. You might be wondering what you get out of it—aside from the fame, glory, and immense self-satisfaction, you'll get your name on the front page of the C.L.U.E. and make money! If you're interested, or have any suggestions on improving the C.L.U.E., contact Flora Ho at 683-9623 or e-mail to floho@cco.

The California Tech

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letters to the editor

Security needs stealth

This is in response to the recent spate of vehicular break-ins on the Caltech campus.

The methodology of the security department is quite incomprehensible. Their standard procedure appears to involve switching on their flashing lights before they enter any parking lot and then cruising the lot.

Two aspects of this procedure mystify me. The first is the purpose of the flashing lights. All they serve to do is give any thief more than ample notice of their arrival, thus giving him time to skulk away. The second is what they hope to accomplish by this cursory drive by, comfortably ensconced within the warm confines of their cabs. Moreover as many a student can attest, the flashing lights are painful to the eyes and only serve to annoy the passers-by.

If the security department at Caltech means business, it would do well to patrol the lots on foot. This will give them the element of surprise and a chance to do a less cursory job of inspection.

Sid Valluri

Rave percentages questioned

We enjoyed the "RAVE REVIEW" in today's issue of the *Tech* (November 12), however the way the author describes the mixture of people at "Sin-A-Matic" has left us wondering. He states that the population at the club was 25% homosexual and 30% heterosexual. Putting aside for the moment how he arrived at these numbers, how would he describe the other 45% of the people? Could it be that due to the skewed gender ratio at Caltech he has learned to overlook the possibility of different sexual orientations among women? Or did he actually survey everyone at the club and determine that 45% of them were bisexual? Inquiring minds want to know.

Kelly Smith

Amy Springer

Mr. Fontaine stands by his figures, claiming that they are accurate to within $\pm 20\%$. As for the other 45% of the people, most of them are probably bisexual, but by not specifying the remaining percentages, the author left open the

possibility of other sexual orientations. Any difference in the sexual orientation of the patrons when correlated with gender is lost in the error.

He also says, "If anyone really wants to take a scientific survey of the sexual orientations of nightclub patrons in the greater Los Angeles area, be my guest. I certainly don't want to. The figures quoted in the RAVE REVIEW only serve the purpose of the rest of the RAVE REVIEWS, and that is to inform people of what they may expect when attending a nightclub that is new to them. So There!"

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.

We are prepared to accept letters written in English, Chinese, French, German, Japanese, Russian, Spanish, and Yiddish. If you are planning to submit a letter in some other language, please contact us beforehand.

continued from page 1

Avery

been decided: all rooms will have central air.

Many of these decisions have been put on hold, however, because of a lack of funding. The original quoted cost of \$10 million has grown steadily as the project has been improved and modified.

"[Avery House] has to be attrac-

tive to people," said Gary Lorden, which these days translates into, it has to cost a lot. The original \$10 million pledged by Stan Avery, a Caltech Life Trustee, is no longer enough to cover the growing costs as different groups submit their ideas for improvement. However, it is better to "put the money into it now," said Kim West, Director of Residence Life, so that in the future we will have something to be proud of rather than just four walls

and a roof. The search for more funding is going on right now.

Avery House will be so different from the current houses that it will not actually be an "eighth House." "It is not meant to replace or challenge these seven Houses," said West, and according to Lorden, students living in Avery will still be able to be affiliated with one of the original seven Houses.

In many ways, Avery House seems like the perfect place to live, new, clean, spacious, air-conditioned. However, whether students and faculty will be able to, or will want to, live and eat under the same roof is still an experiment and we can only wait and hope for the best results.

TONIGHT'S ASCIT MOVIE

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There will be no movie next week because of Thanksgiving.

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Ernesto Tomlinson

Ernesto Explains

Dear Ernesto,

Now that NAFTA has passed the House of Representatives, I am somewhat worried. What will this mean for the American economy? Will the agreement affect me and my family?

—Jittery in Jorgensen

Dear Professor Taylor,

Now that NAFTA's success is assured, the truth can be revealed. I and my Mexican brothers will soon begin the long, difficult process of removing all your bloated, inefficient, Yanqui industry to sunny Mexico, where labor is cheap and pollution is welcome.

Most of the moving will be done on large, flatbed trailers, except for very large companies like IBM, which will only fit on specially constructed barges that we must tow down the rivers and out into the Gulf. These trailers and barges were funded over the years by the astronomical tariffs on Yanqui goods coming into Mexico, along with the training of thousands of engineers and white-collar professionals who are ready and waiting south of the border to take your jobs.

In short, yes, you will lose your job.

Dear Ernesto,

My neighbor's orange tree overhangs my property by approximately seven feet, and when the oranges ripened, my family and I would often enjoy fresh-picked oranges for breakfast. One morning last spring, however, my neighbor saw me picking the oranges, got terribly angry, and threatened to sue me. Can he really prevent me from picking the oranges, or do I have a right to fruit on my own property?

—I'm Innocent, I Tell Ya

Dear Mr. McDowling,

Harvesting rights in the State of California are rather complex, so the answer to your question will depend on several factors.

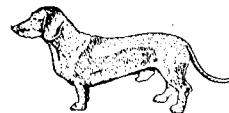
First of all, if your neighbor owns the mineral rights to his property, he has clear ownership of all the fruit it bears *except* navel oranges, which were ruled not to be minerals in the 1933 decision *McNamara v. Los Angeles County Agricultural Board*. (This assumes, however, that there are no burrowing animals living directly underneath the tree.) You can also freely eat the oranges if they are knocked down onto your property by any wild bird (provided that it is not a California condor), coyote, or mountain lion.

If he does not own the mineral rights, you may pick the fruit if you file a Prospector's Claim (form 81A-41) with the U.S. Bureau of Land Management, and a Declaration of Intent to Harvest with the L.A. County Department of Agriculture. Your neighbor will then have thirty days to file his own claim, which would force the case to go before a federal circuit court for arbitration. Your position will be strengthened considerably if the tree's roots extend under your property. Assuming that all goes well, you would then be able to harvest the oranges during the L.A. County Picking Season without further hindrance.

Enjoy.

The California Tech

Caltech 40-58 SAC, Pasadena, CA 91125
phone: (818) 395-6153
e-mail: editors@tech.caltech.edu
ISSN 0008-1582



VOLUME XCV, NUMBER 9
NOVEMBER 19, 1993

EDITORS

Michael "Arnold" Benedetti
Chris "The Gooch" DuPuis
Michael "Willis" Radford

BUSINESS MANAGER

Chris "X" Echols

EVENTS AND NOTICES EDITOR

Jeff "Abraham" Denniston

SPORTS EDITOR

Damian Martinez

PHOTOGRAPHER

Rich "Mr. Drummond" Zitola

CIRCULATION

Heidi "Mrs. Garrett" Sutton
Wei Lin

STAFF WRITERS

Gypsy "Adele" Achong
Tobias Bartels
Margaret "Kimberly" Belska
Zackary Berger
Amanda Eckermann
Jeff Goldsmith
Wei-Hwa Huang
Monwhea Jeng
Michael Kantner
Adam "Dudley" Villani

CONTRIBUTORS

David Derkits
Bryce H. Elliott
Flora Ho
Jim O'Brien
Dirk Runge
Damian Sullivan
Sam Webb

Published weekly except during vacation and examination periods by the Associated Students of the California Institute of Technology, Inc. The opinions expressed herein are strictly those of the authors.

Letters and announcements are welcome. All contributions should include the author's name and phone number and the intended date of publication. Submit copy (preferably on Macintosh 3.5" disk) to the Tech mailbox outside SAC room 40, or e-mail to editors@tech.caltech.edu. The editors reserve the right to edit and abridge all submissions for literacy, expediency, etc.

The California Tech is distributed free. Issues will be mailed off-campus upon receipt of \$10 per year to cover third-class postage and preparation costs. Printed by News-Type Service, Glendale.

Argentina

President Carlos Saul Menem and opposition leader Raul Alfonsin agreed on a plan to change Argentina's 140-year old constitution to allow Menem to run for a second term. The current constitution does not allow the president to run for a second consecutive term. The agreed changes would allow Menem to run for a second term, make the presidential terms shorter, and institute the office of prime minister.

Israel

The Israeli government directed its military to maintain peace and order in the occupied West Bank by using force on any lawbreakers—Israeli settlers as well as Palestinians. Health Minister Chaim Ramon explained that the recent violence and riots in the occupied territories are a threat not only to the recent Israeli-PLO peace accord, but to democracy in Israel.

The U.S. government offered to sell twenty F-15E warplanes to Israel as a reward for its recent peace agreement with the PLO, but Prime Minister Rabin said that he was unsure if his government could afford it.

Japan

In a vote completely divided along party lines, an important parliamentary committee voted 21-19 for bills aimed at reducing political corruption. The bills prohibit donations to politicians, require disclosure of donations to political parties over \$467, provide for governmental funding of political parties, and require new elec-

toral districts to be created by a body set up by the prime minister's office. The bills significantly change the method of electing the lower chamber of Parliament. Under the current system all seats are elected by multi-seat voting districts. Under the proposed system, 274 seats are elected by single-seat districts, while 226 seats are elected by proportional representation. Voters will vote both for a representative from their district, and for a party preference, which will affect the seats filled by proportional representation.

Lebanon

Hezbollah guerrillas mounted their heaviest attack on the Israeli security zone in southern Lebanon since the Israeli-PLO peace accord. The Hezbollah opposes the peace agreement.

Sri Lanka

Tamil separatist rebels took over a military base in northern Sri Lanka, but the Sri Lankan government retook the base. The army said that 500 soldiers were killed or missing.

United States

Puerto Ricans voted to remain a commonwealth of the United States. 73.6% of registered Puerto Ricans voted, with 48.4% voting for keeping Puerto Rico's com-

monwealth status. 46.2% voted to apply to become a U.S. state, while 4.4% voted for independence. Governor Pedro J. Rossello, who strongly supported statehood, admitted defeat. Puerto Rico has been a U.S. territory since 1898 and a commonwealth since 1952.

Courts

A federal appeals court unanimously ruled that the Pentagon

suicides. He asked the prosecuting lawyers to explain why assisted suicide was illegal and abortion legal, citing a 1992 Supreme Court ruling in which abortion is described as "involving the most intimate and personal choices a person may make in a lifetime, choices central to personal dignity and autonomy, and central to the liberty protected in the 14th Amendment."

The Supreme Court accepted a

Mississippi law requiring pregnant teenagers seeking abortions to get the consent of both parents or a judge, refusing to hear appeals. The Supreme Court has not made decisions involving abortion since *Casey v. Planned Parenthood*, in which it said that a woman had the right to choose to

have an abortion, but that states could limit the practice if the restrictions did not pose an "undue burden" on the woman involved. It is not yet clear what is considered an "undue burden."

Congress

The Senate voted 69 to 30 to allow the federal government to stop blockades at abortion clinics and prosecute those who use or threaten violence against clinic workers. Supporters condemned recent violence against doctors who perform abortions. Opponents said that the bill was one-sided, and

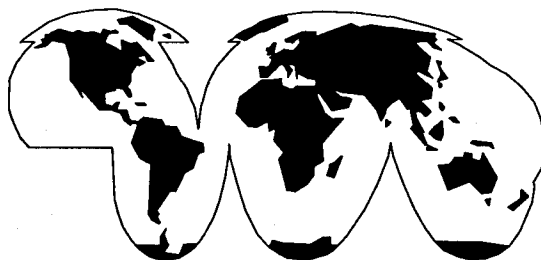
allowed federal authorities to harass peaceful pro-life demonstrators, but not pro-choice ones. A similar bill is expected to narrowly pass in the House.

The House passed the Brady Bill 238 to 189. The bill requires those buying handguns to skulk five days while the police check for criminal records or mental problems. The Senate has not yet voted on the bill. It is currently delayed over Senator Feinstein's (D-CA) controversial amendment outlawing sales of many assault weapons. A preliminary vote showed the Senate narrowly favoring her amendment by 51-49. Some Senate Republicans have threatened a filibuster—that is, a period of extended skulking to hold up the voting process. The Brady bill was passed by the House and Senate in 1992, but Senate Republicans filibustered at the end of the 102nd Congress, preventing voting on the final version of the bill.

The House passed NAFTA by an unexpected 34-vote margin. The treaty will set up a free trade zone between the U.S., Canada and Mexico. The NAFTA treaty now needs to be passed by the Senate.

Police and military forces were put on alert in Texas and Southern California, as reports of a strange and terrifying sucking noise were reported throughout the states. Officials explained that they have not found the source of the noise, but have asked residents to stay in their homes and not attempt to go to work for the next several days. IBM CEO Pablo Martinez said that the noise would not disrupt his plans to move his company to Mexico.

World News



by Momo Jeng

had to graduate and commission Joseph C. Steffan, a midshipman who was expelled from the U.S. Naval Academy six weeks before graduation for admitting he was homosexual. Steffan was in the top 10% of his class, and there was no evidence that he had engaged in homosexual or improper activities. The ruling argued that the expulsion violated the Constitutional guarantee of equal protection under the law.

The judge ruling on Dr. Jack Kevorkian's case said that he would soon decide on the constitutionality of Michigan's ban on assisted

Barton and Turro discover DNA conduction phenomenon

by Caltech Media Relations

Scientists have devised a way to use light to activate the flow of electric current through a short piece of synthetic DNA, effectively using the strand of DNA for the first time as a "molecular wire."

This result, reported in the November 12 issue of *Science*, has the potential to be developed into innovations for sensitive diagnostic agents for DNA-based diseases, and may also plant the seed for a new field of studies into biological electron transport. The principal scientists are Jacqueline K. Barton of Caltech and Nicholas J. Turro of Columbia University. Turro and Barton began their collaboration on photo-activated reactions and probes of DNA almost ten years ago, during Barton's tenure at Columbia.

DNA occurs in nature as a double helix, consisting of millions of nucleic acid base pairs that encode the genetic information which controls the development of organisms. In the *Science* article, Barton, Turro, and their co-workers report the synthesis of two single, short strands of DNA. Some of the DNA strands were unadorned, but some were built with a metal atom skulking at one end, either a ruthenium or rhodium atom.

The researchers synthesized each strand with only 15 nucleic acid bases, and designed them so that when they interacted, they would combine to form a normal DNA double helix. In one experiment, when a plain strand and a ruthenium-labeled one intertwined, the resulting double helix

glowed when excited with light. But in a separate experiment, when a ruthenium-labeled strand was linked with a rhodium-labeled strand so the helix had a metal atom at each end, there was no glow.

The distance separating the two metal atoms—15 base pairs—is so large that Turro and Barton were forced to conclude that the DNA double helix must serve as a wire between them. They believe this "molecular wire" conducts electric current from the photo-excited ru-

thenium atom, which acts as an electron donor atom, to the rhodium atom at the other end, which acts as an acceptor, and "turns off" the glow.

The molecular light switch for DNA reveals whether and where the glow of the ruthenium atom is turned off, and may be used as an indicator of changes in DNA. For example, an "off" light switch could show whether the DNA is damaged, or an "on" switch could reveal whether certain sequences of bases are even present.

Scientists have long wondered whether some cancers might be at least partially due to DNA damaged by reactions with electrons. Understanding this DNA wire is also important in understanding how electric current may be directed in cells in the body. Electrons must travel large molecular distances across membranes in the cell and from one protein to another. This study of very long-range current flow through DNA suggests how nature may direct the flow of electrons.

The fact that the DNA double helix is such an efficient molecular wire also opens up two completely new areas of investigation. First, scientists may begin to take advantage of the natural DNA wire in constructing nano-sized circuits and biological sensors. Second, the efficiency of the DNA wire presents the possibility that nature may already sometimes use DNA as an electron conduit in cellular reactions.

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Magic Revue stuns even the jaded

by Michael Kantner

Fortwo hours on Saturday night, the Chinese Magic Revue of Taiwan amazed and astounded both young and old. Their combination of daredevil stunts, magic, and dancing impressed even the most jaded observer.

One such jaded observer was a third grader skulking behind me who seemed to be the stereotypical "I've seen it all" kid. His hair was a long pony tail with the sides shaved. Before the show, he had the attitude of "I'd rather be home playing Nintendo than here watching some stupid show." It would take a lot to impress this guy.

The show opened with a beautiful dance that used long colorful streamers. The third grader yawned. Next, they performed "Flaming Circle of Fire and Knives." The performers dove through four rings of sharp knives and flaming torches. The child was slightly impressed. After all, even I've seen Tom and Jerry do this on television.

Another performer then started manipulating a picture with her feet. While lying on her back, she flipped the picture end over end, spun it around, and demonstrated more dexterity with her feet than most people have with their hands. She then did many of the same tricks with an umbrella. By this

point, the third grader was enjoying the show.

The next piece began with one performer riding an eight foot unicycle while balancing a bowl on his head. He then placed a bowl on his foot (so he was now unicycling with only one foot on the pedals) and kicked the bowl into the air. It landed perfectly in the other bowl on his head. He then completed the same stunt, but with two bowls (unstacked) balanced on his foot. This child said "Wow!" Then, he balanced three bowls on his foot and shin, and with one kick, landed all of them on his head. Astounding the entire audience, he flipped four bowls into the stack on his head. The third graders mouth gaped open in disbelief. The performer finished the act by kicking a cup onto the stack of eleven bowls on his head, a spoon into the cup, and finally a lid onto the cup.

After a few magic tricks, the announcer asked for two adult volunteers. My date, feeling adventurous, volunteered me. For the first of two tricks, each of the volunteers held a sharp knife, which supported a loop of newspaper that supported a bamboo rod. The performer then broke the bamboo by hitting it with another rod, and did not tear the paper loops. It was impressive, but could be explained by any freshman taking physics. For the second stunt, we sat five

feet apart facing away from each other. The performer balanced a bamboo rod on top of our heads and prepared to break it with another bamboo rod. As the drum roll quickened, I kept thinking, "This can't hurt, otherwise they wouldn't perform it." I heard a loud cracking sound, then felt the rod fall off my head. Sure enough, it didn't hurt, and I received a cracked piece of bamboo as a souvenir. I don't know if the third grader was impressed, but I was.

For a change of pace, the performers began juggling. Initially, one performer was juggling four badminton rackets. After demonstrating several different patterns, he juggled five rackets. Next juggled five balls; then he juggled six rings. He progressed to seven rings, and finally to eight rings. Two more jugglers entered the stage, and the three began passing eighteen rings amongst themselves.

In what could be described as the high point of the night, a performer demonstrated her balancing ability. Initially, she placed four champagne bottles on a table. After placing a chair on the bottles (each leg on one bottle), she performed a handstand on the chair. She then placed a second chair on the first, and stood triumphantly on top of them. This was just the beginning. She added a third chair

see MAGIC, page 9

Bridge Without Sam

by Jeff Goldsmith

Fun!

Nothing is more fun than swindling several tricks. An unusual opening lead by partner allowed us to cooperate to take an amazing number of tricks. Declarer helped.

Playing IMP pairs against an internationalist on my right and his client skulking on my left, I hold in 4th seat, white on red:

♠K4 ♥KQ2 ♦QJ98 ♣K632

After two passes, the star on my right opens 1♦. I cannot enter the auction yet, so I pass. South responds 1♠, which is passed around to me. INT seems obvious, so I bid it. South, knowing his partner has partial spade support, bids 2♠, which is again passed to me. Since I won't sell to 2♠ when they have an eight-card fit, I double for takeout. Partner leaves it in and we defend 2♠ doubled, though I have some trepidation as to the sensibility of this action.

♠ 1053	♠ K4
♥ A54	♥ KQ2
♦ K542	♦ QJ98
♣ A108	♣ K765

N	E
W	S

SOUTH	WEST	NORTH	EAST
Pass	Pass	1♦	Pass
1♠	Pass	Pass	1NT
2♠	Pass	Pass	Double
Pass	Pass	Pass	—

Partner leads the ♦7, declarer ducks smoothly, and I put up the Jack. It holds, declarer following with the 3. That is a surprise. Partner must have underled the ♦A. We know something that declarer does not; I bet we can take big advantage of this. Can we reconstruct declarer's hand? He must have five spades and he cannot have four hearts or he would have rebid 2♥. Since partner is marked with four hearts, he must be 3-4-3-3 or he would have bid 3♥ rather than leave in the takeout double without an opening bid.

It seems obvious to shift to the ♥K, so I do. Partner signals encouragement and declarer wins the Ace in dummy. That's good; declarer might have had the ♥J, and I would have just blown a trick. Quickly, I have to decide whether or not to play the ♠K if declarer leads a spade. I think not; I'd like to get the chance to use it on the fourth heart. After a little thought, declarer leads a small spade off dummy and I am prepared to play low. Declarer wins his Ace and partner follows with the ♠9. That's good; he must have ♠QJ9. Declarer continues with the ♦10. Partner bravely ducks again and declarer tries to drop my Ace, but that doesn't work as I win the Queen. We cash two rounds of hearts, ending in partner's hand and he exits with a club ducked to my King. We have book already and I'm sure that we are getting at least two trump tricks.

Can we really get him? Yes. I know declarer has the ♠Q or ♠J and has no club losers, but declarer does not know that yet. He thinks that I might be endplayed. I continue with the ♦9 and declarer blithely pitches a club as partner takes his Ace. The old winner-on-loser play! Now, when partner continues with the thirteenth heart, I can ruff with the ♠K promoting a third trump trick. All in all, we take three spades, three diamonds, two hearts, and one club for +1100 on a partscore hand. The client is about to receive a lesson from the pro. As we leave the table, partner comes up to me and says, "That was fun!"

The Caltech Bridge Club meets every Monday night at 7:15 in Winnett Lounge. Everybody is welcome; call Jeff Goldsmith at x2818 for details.

RAVE REVIEWS: Denim and Diamonds

by Leo Fontaine

If industrial music isn't your scene, but country music is, then Denim and Diamonds is just for you. Bonus if you don't know any country dances, but would like to learn. Denim and Diamonds features professional dance instruction twice nightly. These happen at 7 and 8 P.M. Monday thru Saturday, and 5 and 6 P.M. on Sunday. Call for particular details. For those folks hungry enough to eat a horse, the place may still feature a free buffet for you to stuff your face. At any rate they do have happy hour

from 4 to 8 P.M. The good news is that you can get in absolutely free with no cover charge on Monday through Wednesday, \$2 on Thursday and a cheap \$5 on Friday and Saturday. Yes, they do validate your parking. The bad news is that the club is restricted to 21 and over. The place itself is definitely classy, but with a cowboy flair. It's just the type of place an urban cowboy would call home. Although even if you aren't quite the urban cowboy type you'll still probably like this place. No mechanical bull though.

The dress code? Denim and Diamonds says it all. Actually, no dia-

monds are necessary, just wear your country and western attire, nice jeans will do.

When you go, remember to have your parking stub validated, or arrive after 11 P.M., when the parking is free. Pretty safe area—few thieves skulking in the shadows.

Denim and Diamonds: Nightly: M-F, 11 A.M.-2 A.M., Sat-Sun. 5 P.M.-2 A.M. 3200 Ocean Park, Santa Monica, (310) 452-3446. Cover: Free/\$2/\$5. 21 and over. Happy Hour: 4-8 P.M.

Since the little ☺ editors decided to cut the club listings from the little ☺, this column was started in the Tech in hopes that the reviews will be included in the next little ☺. This is an open column—if you wish to write your own RAVE REVIEW, please submit your review to the Tech as you would any other submission.

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ADAM VILLANI: MEDIA GUY

by Adam Villani

Sardono Dance Theater
"Passage Through the Gong"
UCLA's Royce Hall November 13th, 1993

Let me preface this article by stating that there is no possible way through words alone that I can convey precisely how weird this performance was. "Passage Through the Gong" is a new dance production conceived and choreographed by Sardono W. Kusumo, a world-renowned Javanese choreographer.

If you read the *L.A. Times* review of this, you may have gotten an idea that this production was a bit bizarre, but that its references to events in Indonesian history would be lost on non-Javanese people. In all truth, I don't think that any amount of familiarity with Javanese culture would have prevented some serious head-scratching. However, I believe the proper attitude to take while watching this is one of, "There's no way on Earth I'm going to understand this; I might as well just enjoy it." I certainly did.

The opening was silent, consisting of Sardono himself dressed only in a loincloth doing a cross between martial arts and dance. Then, as he slowly went to skulk in the background, the gamelan orchestra emerged and began to play their hypnotic rhythms. Four female dancers came to the foreground and did a slow serimpi dance originally written by the 19th-century king of Surakarta. The dancers beautifully yet slowly poured and drank two glasses of wine. Then, after this meditative sequence, they all pulled out antique pistols (!) and shot each other. It was at this point in the performance that I was assured that this was far beyond the ken of *Rolling Stone* magazine.

Then some of the metallophone players came to center stage, dressed as ghostly 19th-century soldiers, with Sardono himself in a sort of ghostly petticoat. After toasting each other with the wine, filling a near-silent Royce hall with just the sound of clinking glasses, Sardono began to thrash about on stage, causing his spectral petticoat to begin to fall off of his body. As Sardono writhed about on the floor, revealing his energetic, loinclothed self, the soldiers began to tear off their outfits, leaving only sashes around their waists. As they wildly cracked whips, the women returned, firing their revolvers. It was quite the spectacle.

Everyone on stage pretty much calmed down after a while, when a procession entered, carrying a woman, Eko Kadersih, standing on a table. She began to fluidly unwind her sarong of seemingly infinite length, never fully removing it. After stopping, the massive sumo wrestler-appearing gong player furtively approached her and began to laugh maniacally. He lay her down and was ready to rape her when Sardono swiftly thwarted his plans by giving him a large baton and spiriting Kadersih away. Left alone with a ten-foot blunt-tipped baton, the gong player began to despair, but then brandished the baton proudly between his legs, waving it around as a phallic symbol. He then struck the gongs behind him mightily, marking the beginning of the closing, a haunting, resonating, gong piece.

This was a fascinating production overall, and I believe the initially skeptical audience even warmed up to it following the long serimpi dance. I was originally attracted to this performance by the prospect of seeing a magnificent gamelan (an orchestra of gongs, metallophones, voices, etc.) live, and was quite impressed. The more traditional serimpi was to ordinary Western dance as minimalist "process music" is to ordinary Western music. I highly recommend that you see this unique fusion of traditional and modern Javanese art if it ever returns to Los Angeles.

Caltech science fiction club reorganized

by Damien Sullivan

At 7 P.M. Wednesday the 17th, S.P.E.C.T.R.E., the Caltech Science Fiction Club, had its organizational meeting to determine new officers and to mobilize work on backed up returned and donated books. New officers were needed because of the departure of Gorm Nykriem, who had run the club for the last few years. Turnout was a stunning 8%, with about 10 of the 117 listed members skulking through the night, some leaving before others arrived. Over the free food provided it was decided that Ruben Krasnopolsky shall be the 4th God Emperor (chief executive), and that Susan Apostolaki and Damien Sullivan shall be co-librarians.

Keys were unearthed and distributed. Susan will attempt to track down old keyholders to reclaim their keys. Keyholders in the past were supposed to be available in the S.P.E.C.T.R.E. room two hours a week so that people could check out books, but reportedly they have been lame for the last two years.

There was some inconclusive dis-

cussion of what movies we might show, and when, as well as about making the S.P.E.C.T.R.E. e-mailing list more publicly accessible. It was also decided that meetings should in the future be at 7:30, to accommodate undergraduate dinners.

The three officers and a dedicated volunteer then set about organizing and shelving books. From this various complaints came forth. Slips are supposed to have one book on them. Much confusion and disorder is still resulting from the misguided practice of taking books from the tables or the black box. Books should only be taken from the shelves, and should be returned to the box. Hopefully the new officers will be able to circulate enough to reduce temptation. Susan will be making up new lists of rules for borrowing books within the next week.

Announcements regarding S.P.E.C.T.R.E. are sent on the mailing list, which has the e-mail addresses of people who signed themselves into the infamous Green Book.



entertainment

Games & Puzzles: The Puzzle Universe—Part I

by Wei-Hwa Huang

This week's title is a pun on *The Mechanical Universe*, mainly because this article features a potpourri of physics puzzles. All of these puzzles have elegant solutions that require little calculus or vectors. You may consider some of them trivial, some of them fiendishly difficult. I've culled these from different sources, so hopefully you haven't seen all of them.

1. A square sheet of metal (with even density throughout) has its corners maintained at a constant temperature: one corner at zero degrees Celsius, the other three at 100 degrees Celsius. After a sufficient amount of time the temperature at each spot will become constant. At that time, what is the temperature of the center of the square sheet?

2. A model of a hypercube is built out of 1 ohm resistors as its one-dimensional edges. What is the net resistance between opposite corners?

3. A physics student from PCC asks you to explain how precession works. After some questioning you find that the student knows almost nothing about angular acceleration, let alone angular momentum and torque. In fact, this student doesn't

even know calculus (heaven forbid!). The student has a rudimentary knowledge of the three laws and the basic idea of acceleration. You have two options: either teach him/her all he/she needs to know, or find a clever explanation that doesn't need all this junk. What is it?

4. When skulking on a sandy beach, you may notice that when your foot steps on wet sand, the sand around your foot becomes lighter (in color). When you lift your foot, the light patch slowly changes back to its darker color, presumably because of water flowing back into the footprint. Explain.

5. Dr. Nietzdoog, the famous physicist, claims to have a "thought experiment" which defies the law of relativity. It goes like this: Assume you have an apple of anti-matter inside a spaceship. Now, the spaceship thrusts up. What happens to the apple? In the reference frame of the ship, the universe is accelerated downward, and so the apple receives a net force downwards, hence (because of its negative mass) goes up, hitting the top of the spaceship. In the frame of the universe, the spaceship goes up, and since the apple's inertia makes it tend to stay where it is, it

hits the bottom of the spaceship. Therefore, the professor concludes, the law of General Relativity is false. Please deflate the professor.

6. Four people are at the corners of a square room, each facing the next person one corner clockwise. When a signal is given, each person walks directly towards the person he is facing. The four people then always form a square that is shrinking and spiraling towards the center. If their speed is a constant 3 meters per second and it takes them 5 minutes to meet at the center, how long is the side of the room?

Solution to last week's Mischmash: You may have noticed that I just printed "Solution," not "Solutions," yet didn't we have two problems last time? (The "contest" doesn't count.) Well, I'm just doing this to see how many people read this column anyway, and know why a word like BAGPIPE is in the answers column.

Anything you'd like to see in this column? Send your suggestions, comments, ideas to Wei-Hwa Huang, Mail Box 542. Or, call x1540 and leave a message. Or e-mail to whuang@cco.



ASCIT BOD minutes, November 16

by Karen Shih

Present: ASCIT BOD, Alan "Pinky" Blaine, Jennifer Trittschuh, Dave Derkits, Vicki Brown, Kristin Polito, Mike Zeineh, Trylæn, Nestor Ocampo, T'Nghia Vuong, Gavin Claypool.

New Business

- The Academic Policies Committee has come up with two diametrically opposed proposals for changes to the core curriculum. They will be presented to the Faculty Board in December and at the Student Faculty Conference in February. One proposal provides greater flexibility to Institute graduation requirements, thus giving the student body more room to explore fields outside of math and physics in the first two years at Caltech. The other proposal emphasizes the current core requirements with possible shifts in the sequence of topics covered to enable more timely correlations between the core classes; in addition, this fundamentalist proposal also stresses the research aspect of Caltech in the first two years of study. Discussion centers on what each proposal means; the minimalist track might take away much of the strain and pressure on the freshman and sophomore years, while the fundamentalist route ensures that a diploma from Caltech means one thing for all options: a rigorous core curriculum that prepares the graduate for top-of-the-line research.

- The Jam Room equipment was fixed, and it cost much less than expected. Next, the cables. Motion to spend \$65.28 for the cables passes (7-0-0; vote taken at the end. Anandi left early.)

- Men's Glee Club wants money for the remainder of the fiscal year. The BOD will wait and talk to T'Nghia some more before giving the club money.

- Blacker picks up the remainder of Ruddock's multi-house social budget for its House o' Da Munth Party. Lloyd picks up its non-alcoholic budget for a Magic Mountain trip.

Old Business

- Summary of BOC Bylaw proposals:

1. Only BOC Chair and Secretary may petition to continue in case of leave.

2. No one from the BOC may petition to continue in case of leave.

3. General housekeeping; procedures for filling BOC vacancies.

4. To appear on the ballot for election, candidates for ASCIT VP/BOC Chairman must have previous experience on the BOC.

- Motion to present proposed amendment 3 on the ballot passes (6-0-1).

- Motion to present proposed amendment 4 on the ballot fails (3-4-0).

- Motion to present proposed amendment 2 on the ballot passes (6-1-0).

- A complete copy of the proposed amendments will be skulking outside the MOSH's Office and published in *The Tech* on Friday. The vote is scheduled for Monday, the 29th, after Thanksgiving.

Athletic Manager

- Motion to resolve that the requirement for recommendation as letterman in intercollegiate volleyball be changed from participation in at least $\frac{2}{3}$ to $\frac{1}{2}$ of the games passes (8-0-0).

Director of Social Affairs

- The Three Musketeers* with the BOD is this Friday. A total of 30 people are going, including the BOD. Please meet at the MOSH/DRL office at 6:00 P.M.

- Installations may be down-scaled this year. The director will come up with concrete possibilities at restaurants other than the Ath sometime in the near future to see how much cheaper Installations can be without losing the formality.

Upperclass Director-at-Large

- Ruddock wants to take the ASCIT Van to Baja. Since the insurance coverage does not apply to trips out of the country, and to avoid any unnecessary legal controversy over the matter, the BOD advises Gisela to kindly reject Ruddock's proposal.

IHC Chairman

- The Committee is rewriting Rotation Rules for next year. The IHC will accept written proposals at next week's meeting, 11:00 A.M. Tuesday, November 23rd. Again, all items for the IHC agenda should be submitted to Craig Smith 24 hours in advance.

President

- A new Student Advisory Committee will meet with Dr. Sharyn Slavin, the Assistant Vice-President of Student Affairs, on a regular basis. Members on the committee will include a representative from the BOD, IHC, and BOC, plus 6-7 other undergraduates for accurate representation of the student body.

BOD Meetings are held Tuesdays at 10:30 in Winnett.

IHC minutes, November 16

by Craig Smith

Present: Asif Hassan, Ben Smith (Bl), Black Jack Murdoch (Da), Eric Loftsgaarden (Fl), Eric Slayback (Li), Derek Surka (Pa), Dave Perlman (Ri), Stan Grant (Ru), Steven Mast (Food Committee Chair), T.J. Creath, and Tom Mannion (Housing).

Correction to last week's minutes: In the section discussing the committee that Sharyn Slavin is interested in starting, the wording implied that a student committee had created the sexual harassment policy. It was intended to say that the Student Affairs office is where the sexual harassment policy came from.

Food Contract Renewal: TFM's contract is up for renewal this year. Steve and Tom talked to us about the options. Tom showed us a survey of meal costs for students attending California universities as a reference.

Rotation Rules: There are no definite proposals for changes, other than abolishing them entirely. This proposal did not pass. Discussion:

- Are the rules redundant with the Honor Code?
- Is the IHC an unbiased judge of violations? or should BOC deal with it?

- Frosh should be treated like people who are able to make their own determinations as to whether someone is trying to mislead them.

- Do the rules force people to behave awkwardly?

- The rules are too verbose. Should be more like Honor Code.

- The basic idea of the rules

(regulations section) is to tell people: Do not misrepresent yourself, or your house to freshmen.

- The regulations have nothing to do with the Honor Code, other than the fact that all students are still bound by the Honor Code. The IHC is running Rotation, which involves the seven Houses, and the representatives of the seven Houses agree that such regulations are reasonable, and that the members of the Houses will follow them. Then, in terms of dealing with violations of these regulations, the IHC can decide appropriate action. It may happen that most Rotation violations would also be violations of the Honor Code.

When discussing Rotation Rules, this refers to the Regulations section of the Rules. If you would like to make a proposal for a change to the rules, please come to the meeting next week with a written proposal (for the record).

Discobolus News: Page beat Fleming in tennis last week. Dabney has challenged Page. Ruddock challenges next.

Disco Rules Question: Can a challenge have the condition that the Houses split the cost? There is no formal vote, but everyone present seems to agree that this is fine if it is stated in the challenge. Ben wants to challenge in paint ball.

Agenda: Once again, if you would like to discuss something at the IHC Meeting, e-mail the item to craig@cco, by Monday at noon, and it will be skulking on the agenda of the meeting.

IHC meetings are Tuesday mornings at 11.

ynews

by Sam Webb

Welcome to yet another edition of the Y News. In case you've been skulking in your room for the last month, Boffo Bonecrusher Broomball is this weekend. The schedule is in the paper. If you're not playing, show up and support your favorite team. This Friday, the Caltech Jazz Band will be performing a noon concert in front of Winnett. Bring your lunch outside and listen to the tunes. If you're interested in volunteer opportunities, this weekend there will be a trip to perform trail maintenance in the San Gabriel Mountains. The trip will leave promptly at 7:45 on Saturday morning. Sign up at the Y if you're interested. As always, tutoring for local high school students takes place every Thursday from 4 P.M. to 6 P.M. in club room one. If you will be stranded here at Caltech over the Thanksgiving holidays, think about going to Tijuana to help build a community center. And, as y'all know, the end of the term is rapidly approaching, so that means Decompression will soon be here. Entertainment this term includes the Roommate Game, so if you're interested in participating, find me or Joan-Marie Gimble. Remember to sign up early to help top get your exciting Decompression T-shirts. If you have any questions, feel free to call Chris at the Y, at x6163.



Allen Robert Gross
Conductor

David Young, double bass

NICOLAI: Overture to
"The Merry Wives of Windsor"

CHAVEZ: Sinfonia India

DITTERSDORF: Concerto in
E Major for Double Bass

BEETHOVEN: Symphony No. 8

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The Inside World

salutes

The Age of Steel

720 S. MARENGO
(fleming??)

seems to me fleming hasnt had an inside world yet (so why am i writing one. i dont really care none what fleming does, as long as they still field teams for intramurals) froshes oughtta do somethin about it or maybe *The California Tech* wont print em anymore cause theyre soooooooooo offensive to the other fine houses man, you want offensive you gotta go back to the way it was when i was a frosh. not that it was any better then, fleming still sucked worse than any of the other fine houses, but at least the house had a little character then. pretty weak now, pretty weak, all this kinder, gentler crap. we still got all the same dumbasses on the sidelines watching fleming sports (blow big red?), taking lame-ass harshes at the opponents when they couldn't do any better themselves (get a clue losers) trying to lose the asshole rap is a good thing, but you take that away from fleming and there's nothing left. just cause you dont consider yourselves rude and obnoxious anymore dont mean youre cool now. not even. well, 'nuff harshin on the house that was alley 2.

tech still sucks bigtime

senior year—same crap, just can't drop any more required classes
sure hope i dont have to use anything i was supposed to learn here cause i cant.

time for top ten list?
TEN REASONS WHY fleming IS THE BEST

- HOUSE IN THE WORLD FOR ALL TIME
10. Its not never has been never will be (it's part of CIT, duh)
 9. cause the froshes are soooooo coooooool.
 8. All those assholes from alley two moved off three years ago
 7. The beer fridge is gone forever
 6. T lives on in all our hearts, especially Wesselmann's
 5. caltech's greatest athlete
 4. Duke and Mark are finally gone
 3. Hoekstra (the snake) helps everyone with any homework they have trouble with (especially 95)
 2. they have 2 computer rooms now
 1. they won some big sports trophies and didn't let it go to their heads

if someone said such good things about my house i'd be sure to get em wet next time he came round. course, in fleming nobody does that no more, its too mean & nasty. from the way some of em smell i dont even know if the showers work nomore

well, im sick a writin and y'all should be sick a readin by now, so till next time, remember

*You can lead a horse to water,
But if the horse is dead,
Stop beating it, for crying out loud,
And get off it, too.
You can't ride a dead horse.*
—one dumb hick

Blacker

(With apologies to the brave men and women of the BFD, and their penises—t.t.b.o.a.i.) Over the past weeks many Moles have gone and bought paint guns, exciting exploding phalluses which KABOOM KABOOM KABOOM at eight o'clock in the morning KABOOM KABOOM make lovely splotches all over our courtyard and the Hell walls. Medical experts, when consulted, agreed that new paint guns are legitimate expenditures. ("Along with," said one, "really buff stereos. I mean butt-awesome." "And fine computers," said another.) Since our house as a whole functions on the presumption that some of our most favored members carry phalluses with them at all times ("Remember," the frosh women were told at the beginning of the term, "sometimes a paint gun is sometimes a paint gun—but usually not"), Excomm was concerned enough to consider reimbursement for some members' phallic restoration. \$500 was left in the Overcompensation Fund. Of course, this required an Excomm meeting to thrash everything out. One was duly held in our library, furnished in attractive Neo-Donated. The Excomm meeting began at 9:10.

Bevan entered with a wild-eyed look and a scepter. He had, he told us, an important announcement to make. "I'm the King of England!" he said. Everyone looked at each other. "No, you're not," said Marcel. "There is no King of England—there's only a

Queen."

"The Queen!" shouted Bevan suddenly. "The Queen!" He leapt up, hand on heart, and headed for the window, out of which he gazed attentively. "Where is she?" he asked.

"Paint fumes," someone murmured.

The final decision was between cucumbers ("which," someone said, "make great pickles, and aren't nearly as noisy as paint guns"), which are cheap, and swift kicks in the seat of the pants for all concerned, which are cheaper. Excomm voted (according to the Secretary's count):

56,799.....swift kick
3.....cucumbers
1.....undecided

Naturally, a Hovse meeting was called to discuss the issue.

Someone raised a hand. "I'm a whitefish!" he said. The lounge burst into laughter. Fifteen people raised their hands in order to explain why he wasn't a whitefish and to let everyone know what they think about whitefish.

Midway through this discussion it was suggested that maybe whitefish was not the most interesting topic, and the matter at hand—phalluses—was taken up again. Someone else said that she was getting sick of light blue, and suggested that we paint the sky. A murmur of interest swept the lounge. The meeting broke up late at night so everyone could look at paint cards.

—HintOr

THE INSIDE WORLD

Christopher "Freight Train" DuPuis
Senior Executive Managing Grunt-In-Chief

Policy

All Inside Worlds must include the author's name. Inside Worlds can only be written by current undergraduates. The editors reserve the right to edit any or all parts of an Inside World. No libelous material will be accepted. It is the author's responsibility to check material written about a person to see if that person considers it libelous.

Please submit a 3.5 inch Macintosh disk, or email to iw@tech.caltech.edu by 12:01 a.m. on the Sunday before the publication date.

This week's Inside World was written by:

720 S. Marengo (fleming): Tom Wachholz

Blacker 1: Zackary Dov Berger

Blacker Warz: Adele Shakal & Sean Upchurch

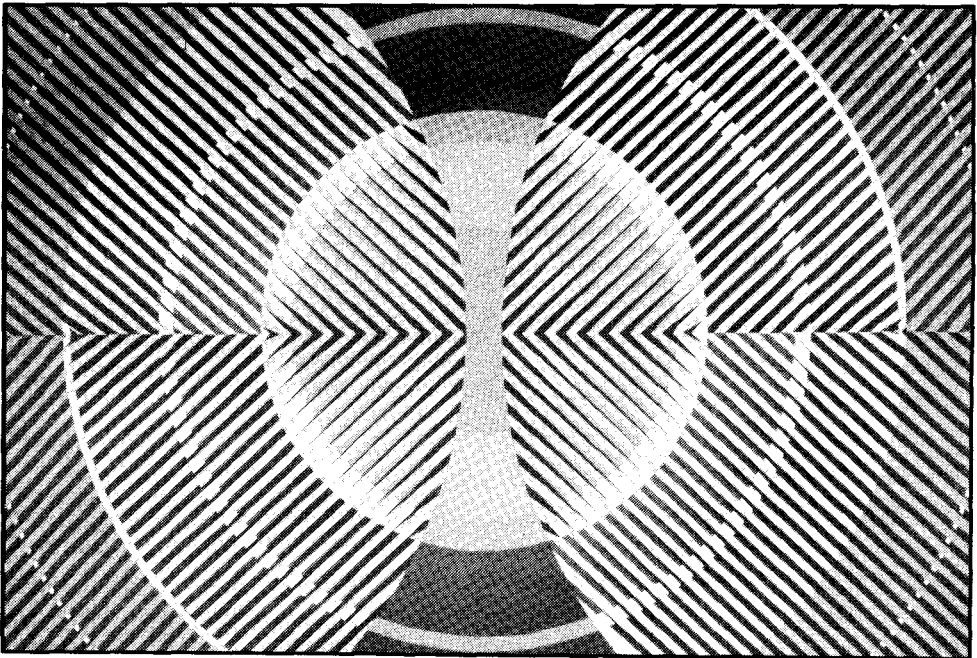
Dabney: Mike Benedetti & Godot

Blacker 2: Tatsuya Murase

Blacker	3	1	1
Dabney	4	3	4
Fleming	0	0	3
Lloyd	1	0	0
Page	2	4	0
Ricketts	0	2	5
Ruddock	3	0	0



5
11
3
1
6
7
3



The original Bessemer Converter, pictured here, was built by Alfred J. Bessemer in 1837. This machine converts ordinary iron into steel, the "Holy Grail" of all earlier metallurgists. Bessemer built it using principles learned by medieval Italian alchemists, including making certain payments to guys named "Giuseppe".

BLACKER

Blacker Inside World: Installment 2
by Adele Shakal & Sean Upchurch

Back at registration, the figure in the crowd was having difficulty blending into the anonymity of milling students. Within moments, she found herself face to face with an Imperial bureaucrat.

He peered at her from across the table, noting that her description and student number matched that of the one individual that the Dark Lord was most interested in. He grinned. He would receive high commendation for this find.

"Here. You have this stack of Promissory Note forms to fill out. Sign here, here, and here."

She maintained her composure. "I believe I'm in the wrong line. Sorry for the inconvenience." With that, she darted back into the safety of the milling crowd.

"But wait—I'm sure you have something to sign here!" Gesturing frantically, the bureaucrat tried in vain to keep her at the table, but to no avail. Utterly disgraced, the bureaucrat knew that he would meet a terrible fate for letting her slip through his fingers.

At a table further down the room, she could avoid the Imperial trap no longer. Sitting down before the camera, she knew herself cornered, and heard the shutter click. With a determined look the officer standing behind the camera said, "There we are. Your Student ID, Senator 'Del Organa. Pleased you could join us at last."

Down on the forbidding surface of New Jersey, a cloth-swathed figure tinkered sporadically with a worn Sand Rover. At the moment he was swearing softly at a recalcitrant leaf spring on the temperamental device. From time to time he resorted to some unsubtle pounding in place of the appropriate tool. Neither method worked very well. He wiped sweat from his forehead and leaned back for a moment. A hot, light breeze tugged at his shaggy hair and baggy work tunic as he regarded the device. No point in staying angry at it, he counseled himself. There was no real way he was going to get to that second repair today, anyway.

He stood back and let out a deep breath, and then squinted into the sky. Quickly he slipped the carefully cleaned set of micro-binoculars from his utility belt and focused the lenses toward a small, intense gleam of light. It streaked down across the sky and appeared to crash a few kilometers away.

After briefly, and guiltily, considering the other farm repairs that he was about to neglect, the young

Ben Skywalker slammed the stubborn leaf spring back into place and jimmied the last of the fasteners with a roll of bailing wire. Jumping into the Rover, he gunned the engine a bit to wake it up, then skimmed a bit noisily toward the possible crash site.

"Senator 'Del Organa, so glad you could make your appointment," the monotonous secretarial bureaucrat sneered. "Lord Vader will see you now."

Mustering what dignity she could, 'Del stood and allowed her escorts to see her to the entrance to the dimly lit office. She took a few tentative steps forward into the darkness, and then heard the heavy thump of the door behind her closing.

Peering uselessly into the darkness, she was startled to hear a deep, hoarse voice from the shadows, "How nice

of you to come in, Senator. And how are things in the student Hovses?"

"Lord Vader, I must protest this treatment. I am behind in my coursework, and I do need extensions, but I absolutely..."

The voice broke in, "Surely you do not think me a fool. I know of your ties to the suspicious activity observed in the seven Hovses lately. You will give me the information you possess concerning that activity."

"I what? Lord Vader, I am simply struggling through the core curriculum like everybody else, and..."

"Don't play games with me, your Highness. I know you have connections to the Rebel Alliance. And I also know that there have been a number of illnesses circulating through the student population here at Tech. If you do indeed need extensions, perhaps you are ill. Perhaps you have been exposed to one of the sicknesses common among the students here." He paused. "Perhaps you should go to the Health Center for a checkup."

She struggled to withhold a sharp gasp, and thought she heard an evil grin as he continued.

"I will arrange an escort for you, your Highness."

The atmosphere of the Center was deathly grim, with sterile white walls and the harsh glare of fluorescent bulbs striking the polished tile floor. The atmosphere

seemed to be designed to maximize the student's feeling of helplessness, and if so, its designers had excelled.

The quiet form of 'Del Organa huddled on the edge of a chair in the waiting area. She jumped, startled, as her name was called, and then made a determined attempt to walk boldly out of the waiting area and down the too-bright corridor, and into a small room down the hall. Silently, a nurse practitioner crossed the corridor into the room, a handful of white, child-proof bottles, unmarked brown paper sacks, and white pamphlets in hand.

A cold voice drifted through the door and into the deserted corridor, "Now, Senator Organa, we will discuss your part in the rebel student activities."

"How do you know whether or not we're going in the right direction?"

You don't even know where we are! I don't know how you made that landing. You have exceptional luck for a droid, A-Jenntoo."

The shorter droid emanated an uncertain stream of beeps.

"Well, I wouldn't take credit for that landing if I were you,

either! I don't think that operating that capsule was ever in your programming. Ah, A-Jenntoo, do you register that moving object there? What is that? Yoo hoo, help! Over here! At last! We're saved!"

The speeding Sand Rover slowed as it approached the two droids, then skidded to a stop beside them. Ben leaped out of the Rover, and cautiously regarded the two droids. "What are you two doing out here? Where did you come from? Did you crash land out here?"

"I am CS-Briano, human-computer relations and this is my counterpart, Artoo-A-Jenntoo. We are a bit lost at the moment. Would you happen to know what planet we're on?"

"If there's a bright center to this universe, you're on the world that's farthest from it." He sighed. "My name's Ben Skywalker, and this world is called New Jersey."

"Thank you, Ben Skywalker."

"Just Ben, please. Hey, if you two don't have anything else to do, I sure could use a little help on repairs. Do you speak C?"

"Why, yes, of course! I am fluent in over six million forms of computer software and programming lan-

guages. And A-Jenntoo here never minds tinkering about with random repair work. Right, A-Jenntoo?"

The shorter droid let out a long string of whistles and beeps.

"What do you mean? What mission? Can't you see that this is our chance to find civilization? He's offering us a project to help with... why, that's almost an invitation for us to find a new home here! What are you thinking?"

The reply was a stubborn-sounding beep, and then a mildly apologetic set of whistling noises.

"I'm terribly sorry, Ben, but my companion seems to want to go on some hair-brained expedition to find someone she calls Obi-Wan Montague."

"I wonder if she means old Mark Montague..."

"Excuse me, Ben, but do you actually know of such a person?"

"Well, not exactly. I don't know anyone named Obi-Wan ... but old Mark lives somewhere out on the fringe of campus at House o' da Munth. He's kind of a local character... a hermit. Some of the locals say he's a sorcerer." He paused. "But I never heard him talk of droids of any kind."

Following a stream of beeps and whistles from the other droid, CS-Briano said apologetically, "She seems quite adamant about seeing him to complete some mission or other. I really don't know what she's talking about, but once she gets an idea in her circuitry, well..."

"Well, if it's that important, we can make a few adjustments to the Sand Rover, and then see if we can't find this Obi-Wan person. You'll never get to Munth by nightfall over this terrain without the Rover."

"Why, thank you, Ben..."

A few short beeps interrupted the taller droid.

"Oh, A-Jenntoo, stop that. I'm sure we can trust Ben. Besides, he's right. We need transportation."

An acquiescent whistle followed, and the three of them set to work on locating an oil leak around the axle of the Sand Rover. Several hours later Ben's adjustments to the Sand Rover were complete and he and the two droids set out for Hovse o' da Munth trying their best to avoid contact with the dreaded Gang People of the New Jersey wastelands. Just before dark the group finally arrived at Munth; leaving the Sand Rover they approached the concealed entrance to the dwelling. It would not suit most people, reflecting instead its owner's peculiarly eclectic tastes. The place radiated an aura of independence without evoking feelings of isolation.



WARZ

The three approached cautiously. They stopped a few feet from what appeared to be the front entrance, and Ben called out, "Hello, anybody there?"

A few moments later a hoarse voice emanated from the building, "Who wants to know?"

The two droids looked at one another a bit uncomfortably, then looked to Ben, who shrugged slightly before replying. "I'm sorry for bothering you, but we're looking for Mark Montague. Does he live here?"

"Occasionally." A figure emerged from the shadows of the entranceway. "Why are you looking for me?" As the figure moved into the light, Ben could see the older man more clearly. His face had the appearance of one who has fought too long, seen too much, and yet is still resigned to continuing toward some far-off goal.

"Well, sir, I ran across these two droids, and the Artoo unit keeps beeping about a mission to find someone named Obi-Wan Montague. I thought you might know him, or be related to him. I'm sorry if we've bothered you."

The older man leaned quietly on the wall of the entrance. "Obi-Wan Montague... Obi-Wan... now, that's a name I haven't heard in a long time."

"Do you know him then? My uncle said he was dead."

A paradoxically youthful smile transformed itself into a mischievous grin. "Oh he's not dead, not yet! By the way, what's your name, boy?"

"Oh. I'm Ben Skywalker. Do you know this Obi-Wan, then?"

"Of course I know him—he's me. Why don't you and the droids come inside. There's no reason to talk out here, and we may be talking for a while."

Ben and the two droids followed Mark into Hovse o' da Munth, finding places to sit amidst the clutter in the living room. Ben looked expectantly at the older man, who chuckled and began, "I used to go by that name, many years ago. You may have guessed. But why a modern Artoo unit would be trying to find me, I have no idea."

At this point A-Jenntoo began beeping and whistling at a most startling pace, and CS-Briano was hard-pressed to translate up to speed.

"General Montague, this A-Jenntoo unit has a vitally important message for you. I apologize for my not being able to speak with you personally, but these are difficult times. I present to you this message from myself, Senator 'Del Organa, in

the name of the Alliance to restore the Old Tech Republic." The beeping and translation paused briefly.

Ben's eyes bulged, but the older man simply nodded a bit to himself. He appeared neither impressed nor startled.

"Years ago, General," CS-Briano continued, "you served the Old Tech Republic during the DAPAC Wars. Now we beg you to aid our cause again in our most desperate hour. We would have you join us in Indiana. You must come. We have great need of you."

"Once again, I regret that I am unable to present our request to you personally. My mission to meet with you has failed. Hence I have been forced to resort to this secondary method of communication."

"Information vital to the survival of the Alliance has been secured in the circuitry of this Artoo droid. My associates in the Alliance will know how to retrieve it. I plead with you to see this droid safely to Indiana. From there, we must press forward, and West, and use the information in the droid to defend our survival."

Another pause. "You must help me, Obi-Wan Montague. You are my last hope. I will soon be captured by agents of the Imperial Administration. They will learn nothing from me. Everything to be learned lies locked in the memory cells of this droid. Do not fail us, Obi-Wan Montague. Do not fail me."

Silence fell over the room. Ben's mind was whirling. Unanchored, he turned for stability to the older man sitting thoughtfully nearby.

The old man. The crazy wizard. The desert bum and all-around character that everybody in the area had thought they had known for years. Not quite disbelieving, he asked, "General Montague, you fought in the DAPAC Wars? But... that was so long ago."

"Well, not as long as some might think. But I suppose it was a while back. I was an Interhovse Knight once, Ben. Like," he added, watching the younger man appraisingly, "your father."

"An Interhovse Knight?" Ben echoed. Then he looked quite confused. "But, my father didn't fight in the DAPAC Wars. He was never a knight. He was a math major."

Mark leaned back in his chair. "Or so you have been told. Some people here believed that your father should have stayed here in New Jersey and not gotten involved in..." He paused. "Well, not gotten involved in anything but raising a family and staying out of harm's way."

Again the older man paused. "I knew your father, Ben. He was a fine

knight, and a good friend."

Ben appeared to ponder this, and slowly began to accept a different version of his father than he had ever heard described.

Mark seemed to be in deep thought, and then reached an important decision. He stood, and going to a box in the corner of the room, began rummaging through it. Within a few minutes, he found what he sought.

"I have something for you. Your father wanted you to have this when you were old enough, but your Uncle wouldn't allow it. He was afraid you'd help old Montague with some damn, fool idealistic project."

Ben looked at the strange instrument, and turning it over in his hands he asked, "What is it?"

"Your father's Power Drill. It is the weapon of the Interhovse Knight. Not as clumsy or random as a ratchet; a more civilized tool for a more civilized time."

Ben paused thoughtfully, then seemed to find a new sense of resolve as he asked, "How did my father graduate?"

The older man seemed to wince a bit, then replied, "There was a young undergraduate who was once a friend of mine until he turned to the Administration. He helped them hunt down and destroy the Interhovse Knights. He betrayed and gradu-

ated your father in, oh, '62 or so, and now the Knights are all but extinct. He was seduced by the Dark Side."

"Interhovse Knights? I don't know much about them," Ben interjected.

Smiling, Monty explained, "Interhovse is an energy field that life creates. It surrounds us and binds the galaxy together." He turned and looked Ben in the eye. "You must learn the ways of Interhovse if you're coming with me to Indiana."

Trying to contain his surprise, Ben exclaimed, "Indiana! I can't go to Indiana. I have duties here, labs to finish."

Monty leaned forward and added, "I'm too old for this. I need you, and she needs you. Besides, can't you hear the road calling?"

"Look, I can take you as far as the Ath parking lot. From there you can get a shuttle to LAX or anywhere you need to go." Ben finally admitted.

"You must do what you feel is right." Monty concluded.

The four of them stepped out of Hovse 'o da Munth and stumbled upon a group of Gang People ransacking the Sand Rover. Monty belatedly and the Gang People ran off, but not before they removed the winch's control box and the radio, leaving behind the nonfunctional tape deck.

[To be continued...]

Ricketts



Dabney

As promised, my Inside World this week focuses on my frosh year. Now reminisces are usually pretty indulgent, so get ready for a bunch of things that will probably interest only me and my Alley Four brethren.

Let me begin by explaining my current state of mind on this whole "my frosh year" business. Somewhere deep inside, I feel that the only real way to have a frosh year is to do everything we did my frosh year. This is a silly notion, of course. The frosh class this year is made up of different people than my frosh class. Also, they're living in a different house. Dabney is no longer the wonderland it seemed to be my frosh year. The house seems to have become much more cliquish with each passing year, and the administration has become much less permissive.

Alley Four doesn't seem to have the spirit it once had. All that comes out of Alley Four nowadays is bad music (at least Fred & Bill had taste). It seems that all the frosh now congregate in the library. If only Rahul was still there to scare them off, perhaps they'd form a proper community.

Do not take any of the above to mean that I think that "the frosh are lame." My class is undoubtedly one of the lamest classes of Darbs in the past two decades. Compared to the class of '96, we were bland as tapioca, and the current frosh class is so much cooler than we were that it puts me to shame.

Anyway, enough of that self-indulgent foolishness. It's time for *this* self-indulgent foolishness: a reprint of the first IW Godot and I ever wrote. It was in the last *Tech* of first term, our frosh year. I'm surprised at how well it's held up. (BTW, if more of you lames out there would write IWs, we wouldn't have to warm over these old ones to fill space).

We found the White Album today.
Top Ten Most Important Things to do to be a Darb
10. "Don't be polite, especially if you are Asian." (ESL handout)

9. Learn to juggle.
8. Hug a Flem.
7. Read T.S. Eliot's "The Waste Land."
6. Drop something.
5. Pay \$12.50 a term.
4. Tie-dye your brain.
3. Increase your chemical awareness.
2. Be apathetic.
1. Frolic in the autumn mist in a land called Honalee.



Enough of this frivolity. Welcome to the Dabney *Inside World*. After reading the list above, you may be struck by a question—who would want to live in Dabney, anyway? This question had occurred to others before, and so it was decided that an ambitious project should be carried out—a Darb would record his laugh-packed, thrill-a-minute adventures in Dabney during a typical day. The results are recorded below. (If you are more interested in the surreal "Waiting for Godot" thing, skip the results and come back to them later.)

24 Hours in Dabney: To Hell and Back with a brief stopover in Lester Prairie, Minnesota.

- 12 A.M.: Nothing.
2 A.M.: Nothing happening in Ruddock, either. Godot not sighted.
4 A.M.: People in Ruddock talking and doing homework. In Dabney: Karen and Bo are hot tubbing whilst Brad watches a movie and writes.
5 A.M.: Lloyd: Everyone is asleep.
6 A.M.: Too early to be up. No sign of Godot.
6:11 : Rich is reading in Dabney library.
6:20 : Rich has mysteriously disappeared.
6:50 : Jon Lange eats soup.
7:50 : Momo returns to Alley 4.
7:54 : CZR finds some useful relationships in EE.
8:00 : B&G already hard at work clearing the weekend's debris.
8:09 : Daily paper arrives. Maybe something is

- going on *somewhere*.
8:50 : Nothing happening in Lloyd.
9:12 : Nothing much.
9:43 : π moves in library.
9:46 : Alley 6 phone rings. Action at last!
9:49 : Dabney library is evacuated. Time to move on.
9:50 : Those gooey palm berry things are hosed from courtyard.
10:02 : Nobel laureate Murray Gell-Mann has apparently not arrived. His parking space remains vacant. Godot hasn't arrived yet, either.
12:45 : Nothing happening in Lloyd.
1:45 : Nothing happening in Dabney.
1:47 : Buttman™ replenishes his energy with life-giving ramen.
2:25 : Ricketts courtyard devoid of life.
2:26 : Many Scurves are lying on the floors of their rooms, doing homework.
2:28 : Badminton is being played in Blacker courtyard. Christmas lights are up.
2:30 : Fleming courtyard vacant.
2:31 : Four people in Dabney courtyard (including one maintenance guy).
2:56 : Four people in business suits sighted in Throop park. Is there a connection here?
2:57 : Rubbed Millikan's nose.
4:30 : A group leaves Dabney courtyard to go out for Thanksgiving dinner (note: this is December 2).
4:37 : Am paralyzed with fear for 23 seconds after seeing Bart Simpson's grisly remains.
6:04 : Dabney lounge rocked by news about Paul Wellstone. Also, *Weekly World News* has arrived.
6:14 : Dinner: rice n' leaves- MMMMMMMM!
8:45 : Rich puts up Christmas lights, turning Alley 6 into a psychedelic wonderland.
11:14 : Having a swingin' time over in Lloyd.
11:16 : Some people in Lloyd are playing pool.
11:17 : Page is loud. No fellatio sighted.
11:17:01 : Silly Flems.
11:50 : 46th housequote of the term goes up in library.

11:52: More nothing.
11:57 : "The Graduate" is being shown in the game room.

Well, there you have is folks. Become a Darb and you too can experience Jon Lange eating breakfast or the unanswered ring of a telephone. Okay, so nothing exciting happens at Dabney. At least you can listen in on surreal/existential conversations like the one dramatized in *Waiting in the Alley Four Kitchen for Godot*—Is he here yet?
No, he isn't here yet.
—When is he coming?
He said he'd be here today, or maybe tomorrow.
—What time is it?
It's 4:30 A.M.
—I hope he comes soon. Godot will come and everything will be okay.
Hey dude! Look at this! *Varieties of Psychedelic Experience*... I thought I had all the literature... Wow! This was printed when it was still legal!
—We went to see Ollie North. We taunted him, and he signed our copy of *The Doonesbury Chronicles*.
You suck, man. We went on a desert trip and climbed on rocks and saw funky trees...
—These are good cookies. What did you say was in them?
I want to do something.
—Let's go to Lloyd.
The horror. The horror.
—Nobody comes, nobody goes. Nothing happens, nothing changes. It's awful.

Vladimir
Estragon
Momo

Blacker 2

But then again, the only saving grace of my last submission was printed in the Arial™ font (12pt. even!)—mainly because the Inside World editors (*the former Inside World editors*—ed.), in their infinite quest not to have to use their typing skills, decided to cut and paste that last submission.

Anyway, here I am again, avoiding homework and whatnot to speak again to you all. A short message from the Administration, who last week admonished us to go to class despite the overwhelming amount of smoke and the spectacle of fire (looting) that abounded around us. Obviously, we would have

broken our daily habit of going to class religiously—on a normal day, no one would even dare to think of <gaspl> skipping class. Please, no laughing this is an absolutely serious matter.

Ok, I haven't gotten to the short message from the Administration, since I went on and on, like I do, and got up on some soapbox to express my views which have a high probability of running counter to the Establishment—but I digress....

The message is (was) this:

"The last Inside World contained references to violence that we feel quite concerned about. We would like to say that Mr. Ernest Tomlinson is alive, and that no Teaching Assistants for Ama 95a have been found dead to date. We feel that depictions of violent and threatening things that may frighten people who are easily frightened by such things (fearfully challenged as we prefer to term it) are not appropriate in a student publication at all. We have sent out a letter (form AER-2345) to the author of this particular submission to think about the impressionability of the new students that have come here to Caltech—we would like to take this opportunity to dismiss the rampant rumors that various members of the Administration have been targets of assassination by a criminal syndicate—the

added security is to protect us from the encroaching dangers from increasing crime in Pasadena, and therefore help us serve the student community better.

—Signed,
The Administration
(form AWD-0295)"

Ok, so I may have bent the truth a bit about Ernest, but he does owe money, big time. And the part about Dean Kiewiet: Think about it, when was the last time anyone saw him make a public appearance? Oh, you thought you saw him walking around without a devil's care on the Olive Walk—ha, fooled by an imposter—I mean, if Saddam could afford a few as a dictatorial tyrant in an oil-rich middle east country, why not Caltech?

Apparently, according to surveillance teams, he has been spotted in New Zealand, reported under the protection of the Caltech Bureaucracy—two agents were reported missing after the Bureaucracy hit them with a surprise attack of paperwork and long (velvet-lined) lines. The local Syndicate Director felt it would be bad for PR if the Bureaucracy HQ in New Zealand was suddenly provided with a lot better ventilation system (provided by biology major/heating and cooling expert Zack Berger) using large amounts of high caliber ammunition. Currently his whereabouts have not quite been pinpointed, though agents are working round the clock chasing the paper trail left by the Bureaucracy. Dean Kiewiet will be found, and he will be taken care of.

Yeah know, this is the second time I've mentioned Zack. Let me tell you about Zack—he's taking a lot of cash to get me printed this often. Fortunately, we can *acquire* the resources needed. Well, ok, so we have been putting a *little* pressure to get him to print this. All right, next time I won't send the squad of agents to his door with my *Inside World* on a bayonet. And we'll try not to have to tie him to the chair and gag him.

—tots
A kinder, gentler Syndicate One Director of Public Relations
WARNING: THIS INSIDE WORLD, INSIDIOUS WRITTEN BY THE TOTS WILL SELF-DESTRUCT AND CAUSE MASSIVE DAMAGE TO PERSON AND PROPERTY IF YOU DON'T: GO TO CLASSEVEN IF CAMPUS IS ON FIRE; BRUSH YOUR TEETH; GO TO THE BATHROOM BEFORE A LONG ROAD TRIP.

Bessemer's revolutionary process for producing steel built upon techniques developed by earlier alchemists and metallurgists throughout history. Because of its unparalleled utility, steel had been produced ever since the 1200s, when Japanese metallurgists found that steeping wrought iron swords in soy sauce for several months removed all impurities from the metal, then reintroduced carbon atoms as the sauce slowly became rancid. However, since the effect only penetrated a few millimeters into the iron, this process was only useful for making sharp blades, and not at all for building strong structures.

Then, in the year 1286, Roger Bacon devised a method of turning gold into steel by use of philosopher's-grade dolomite, a derivative of the legendary *Philosopher's Stone*. This discovery earned him the scorn of his peers in the scientific community, who observed that steel produced from gold lacks the grey sheen of true steel, having instead a golden luster. Bacon devoted the remainder of his life to devising a method of making steel from platinum, but he died before his research could be completed, and all of his laboratory notes were burned by his superstitious house-

keeper, who believed that such studies could only be the work of the devil.

The final advance in steel technology before Bessemer's Converter came in 1597, on the Caribbean island of Trinidad. Many years earlier, Spanish conquistadores, who came to the Americas in search of Eldorado, the legendary city of steel, had brought their flamenco music to the island. This new style of music came into direct competition with the traditional steel pan (or, as many philistines have called it, steel drum) groups which had abounded in Trinidad for centuries. In order to regain their former position of supremacy, a group of steel pan players brought their cast-iron steel pans to a hoodoo doctor, who showed them secret pagan rituals for the transformation of iron into steel. Thus, not only did the steel pan once again take the first position in the music of Trinidad, but the players also went on to become influential steel magnates for many years. Their steelmaking rites would still be used, except that the Bessemer Process is a bit more efficient in terms of the actual conversion, and it does not require the sacrifice of a dozen beautiful virgins at every new moon.



FACE IT, TRICKLE DOWN ECONOMICS IS ALL DRIED UP.

THESE DAYS YOU NEED ALL THE HELP YOU CAN GET.
THAT'S WHY WE OFFER A \$1,000 CREDIT LINE
AND NO ANNUAL FEE. THERE, THAT
OUGHT TO INCREASE YOUR CASH FLOW.



IF YOU DON'T GOT IT,
GET IT.SM

Caltech wins North American College Bridge Contest

by Jeff Goldsmith

Two second-year graduate students each won \$500 scholarships November 9th by getting the highest score in the Western US. Curt Hastings and Jeff Rawlings are the third consecutive winners for Caltech. The contest has been run for three years.

Curt and Jeff also qualified to represent Caltech in the upcoming intercollegiate team tournament. They will be joined by Brian McAllister and Bobby Bodenheimer on one team and Qing Yang, Bo Yu, X.D. Fang and Lupei Zhu on the other. The regional team tournament will be held in late February.

Bonecrusher Broomball XIII this weekend

by Sam Webb

Boffo Bonecrusher XIII will begin at 12 A.M. on Saturday (technically Sunday) at the Pasadena Ice Skating Center. As always, if you're not playing, you can show up and skulk and watch the carnage. This term, we have a very limited amount of time, so show up promptly. The teams which advance to the finals will be determined by win/loss record and goal differential.

Schedule		
1. Bitter Blacker Ath Team	12:15-12:35	12:35-12:55
2. Violent Femmes	12:40-1:00	1:00-1:20
3. Larger Than a Truck	1:05-1:25	1:25-1:45
4. Ice Weasels	1:30-1:50	1:50-2:10
5. Ruddock Hyper Frosh	1:55-2:15	2:15-2:35
6. Blacker Team Two	2:20-2:40	2:40-3:00
7. The Most Council	2:45-3:05	3:05-3:25
8. Flaid Thunder Penguins	3:10-3:30	3:30-3:50
Finals		
	3:35-3:55	3:55-4:15
	4:00-4:20	4:20-4:40
	4:25-4:45	

Alumni Game marks beginning of Tech's 93-94 basketball season

by Bryce H. Elliott

Hang on to your hats, sports fans! It's that time of year again. At 2:00 P.M. on Saturday, November 20 in the Braun Gym, the Caltech basketball team will take on its alumni. Hopefully the game will be a little closer than it was last year, when the Beavers romped the alumni in a way that does not bear repeating. It easily could be, with the return of recent alum Jason "Big Mac Attack" MacLeod to the Rose City.

The alumni game will be the start of an exciting season in Beaver basketball, as the team looks better than last year's 9-15 squad. Leading the way is two-time All-SCIAC forward George Papa. Papa set a school record last year as a junior, scoring 43 points in a single game. The scoring should be more balanced this year, though. Senior John "Pimp Daddy" Parks has improved his hops and his shooting touch, and should add a new dimension to the Beaver attack. Rebounding from an off year last season, junior Todd Gottula has looked

sharper than ever in the pre-season. Look for him to knock down jumpers from the outside and dish with precision to his teammates for easy buckets. The all-purpose man on the Caltech squad is sophomore "Sneaky" Steve Tsai. He's a guard, a forward, a postman, a scorer, a passer, and a position defender, and he plays them all well. Rounding out the starting five is a freshman hailing from Texas, Josh "MJ" Moats. As you might expect from a Texan, he comes out on the court with his guns firing, and he is quite a sharpshooter.

Don't think that's all there is to the attack. Coming off the bench at guard are junior "Doctor Dribble" David Chavez and senior Nhat "Crazy Bug" Nguyen. They are both lightning quick and have excellent ball-handling skills. For more help at guard, freshman Gilbert "Just Say" Yoh and junior Tom "Ground Effects Z" Zavisca provide another line of defense. Arun Durairaj and Scott Lyons bring experience and quickness to give the squad some much-needed

depth. When things get rough, though, every team needs a bruiser. Six feet and 185 pounds may not seem like much, but senior Bryce "Big Beaver" Elliott makes the most of it.

Come out and cheer on the Caltech basketball team, see some old friends, and stick around for the JV game at 4 P.M., immediately following the varsity game. Also, for those of you who are going to be here over the Thanksgiving break, Caltech will be hosting the Hi-Tech Tournament Friday and Saturday the 26th and 27th. Due to an error in scheduling, the Hi-Tech Tournament conflicts with the pre-season NIT, and many teams were reluctant to break their prior commitments, so North Carolina and Cal will not be at the Hi-Tech Tournament as hoped. It should be an excellent tourney, though. The Beavers are seeking revenge for a tournament final loss to American Indian Bible College last year. Catch the action!

Sports Results			
Cross Country	Saturday, 11/13	NCAA Division 3 Regionals	Men's: 7th place Women's: 8th place
Football	Saturday, 10/30	Australian National Team	won, 14-12
	Saturday, 11/6	Hawthorne Cougars	lost, 13-32
Ice Hockey A	Monday, 11/1	USC	won, 5-3
Volleyball	Friday, 10/29	L.I.F.E. Bible College	won, 3-1
	Saturday, 10/30	Christian Heritage	lost, 2-3
Water Polo	Saturday, 11/6	Pomona-Pitzer	lost, 9-16

Rationales behind the bylaw amendments

by Michael Brundage

The purpose of the first proposed amendment is twofold: to rewrite the poorly written existing bylaws, and to explain what will happen if a Board of Control representative leaves office before his or her term expires. This doesn't significantly change the existing bylaws, and serves only to make the election/appointment procedures more clear.

The purpose of the second proposed amendment is also twofold: to clarify the existing subsection (d), and to require the Chair and Secretary of the Board of Control to abide by the same rules the BOC representatives must follow. Earlier this term, the ASCIT Executive Committee ruled that subsection (d) requires that representatives must be registered undergraduate students, and part of this amendment serves only to re-word the existing bylaw so that this interpretation will be more clear. Also, as it stands, the BOC Chair or Secretary could petition the ASCIT Executive Committee to remain on the Board, should either cease to be an undergraduate student. We believe that it is important that all members of the Board be registered undergraduates at all times in order to provide the most fairness possible.

Magic

continued from page 4

and performed a hand stand. By this point, she was so far above the stage that her assistant had to climb a ladder to hand her more chairs. Next, she stood atop four chairs. Continuing, she performed a hand stand on the tower of five chairs. At this point, the third grader, fearing for the performer's safety said "No! Stop!" His words could not be heard over the "ohmygoshes" coming from the rest of the crowd. An assistant then brought out a sixth chair. Precariously balanced about twenty feet high, atop six chairs, four champagne bottles, and a table, she performed a one armed hand stand. Everybody, including the performers, breathed a sigh of relief when she was back down on the stage.

After seeing the Chinese Magic Revue of Taiwan, one can only hope that the third grader's parents followed the advice given in the program. "The Management recommends that you advise your children that what they see on stage takes years of practice and should not be tried at home."

Bylaws

continued from page 1

exceed one year. All applicants must be interviewed by the Board of Control.

Add subsection (f):

(f) In the event that a Board of Control representative from the Houses retires before his term of office expires, the House shall elect a replacement for the remainder of the term of office in accordance with the election procedures determined by the House.

Add subsection (g):

(g) These representatives at large shall be chosen after ASCIT elections but before the swearing in of the new officers. They shall assume office at the time the Vice President is installed.

Add subsection (h):

(h) In the event that a Board of Control representative at large retires before his term of office expires, the Board of Control shall appoint a replacement from the

undergraduate student body at large for the remainder of the term of office.

AMENDMENT 2 BOC eligibility requirements

Replace Article IV, section 1, last paragraph, first sentence with:

In the event that an officer ceases to be an undergraduate student of the Institute, he shall retire from that office. An officer other than the Vice President or Secretary of the Board of Control may petition the ASCIT Executive Committee for approval to continue.

Replace Article VII, section 2, subsection (d) with:

(d) Only registered undergraduates may serve on a case of the Board of Control.

Add subsection (e) to Article VII, section 2:

(e) In the event that a Board of Control member fails to register or takes a leave of absence at any time during his term of office, said member shall retire from that office immediately.

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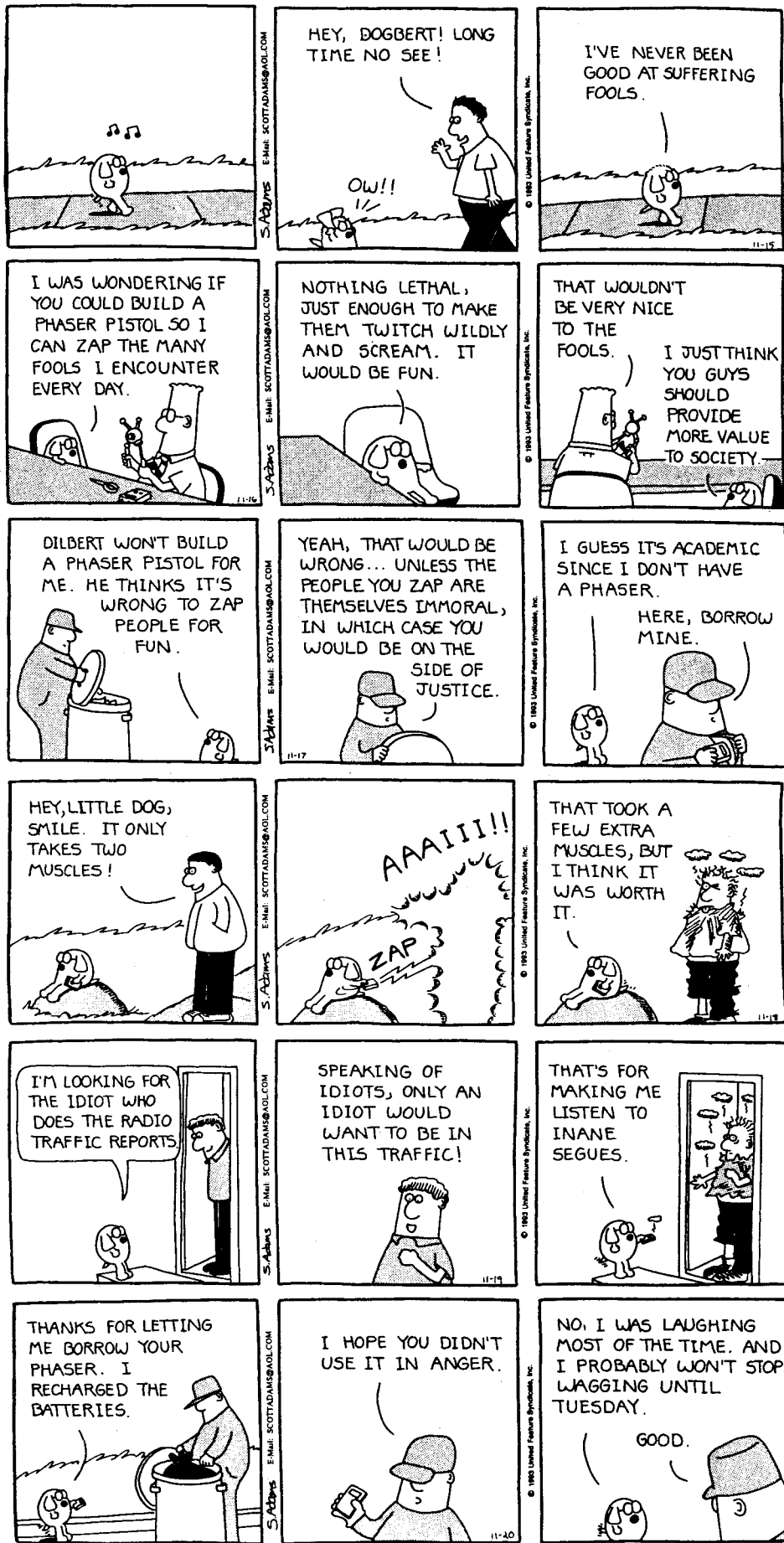
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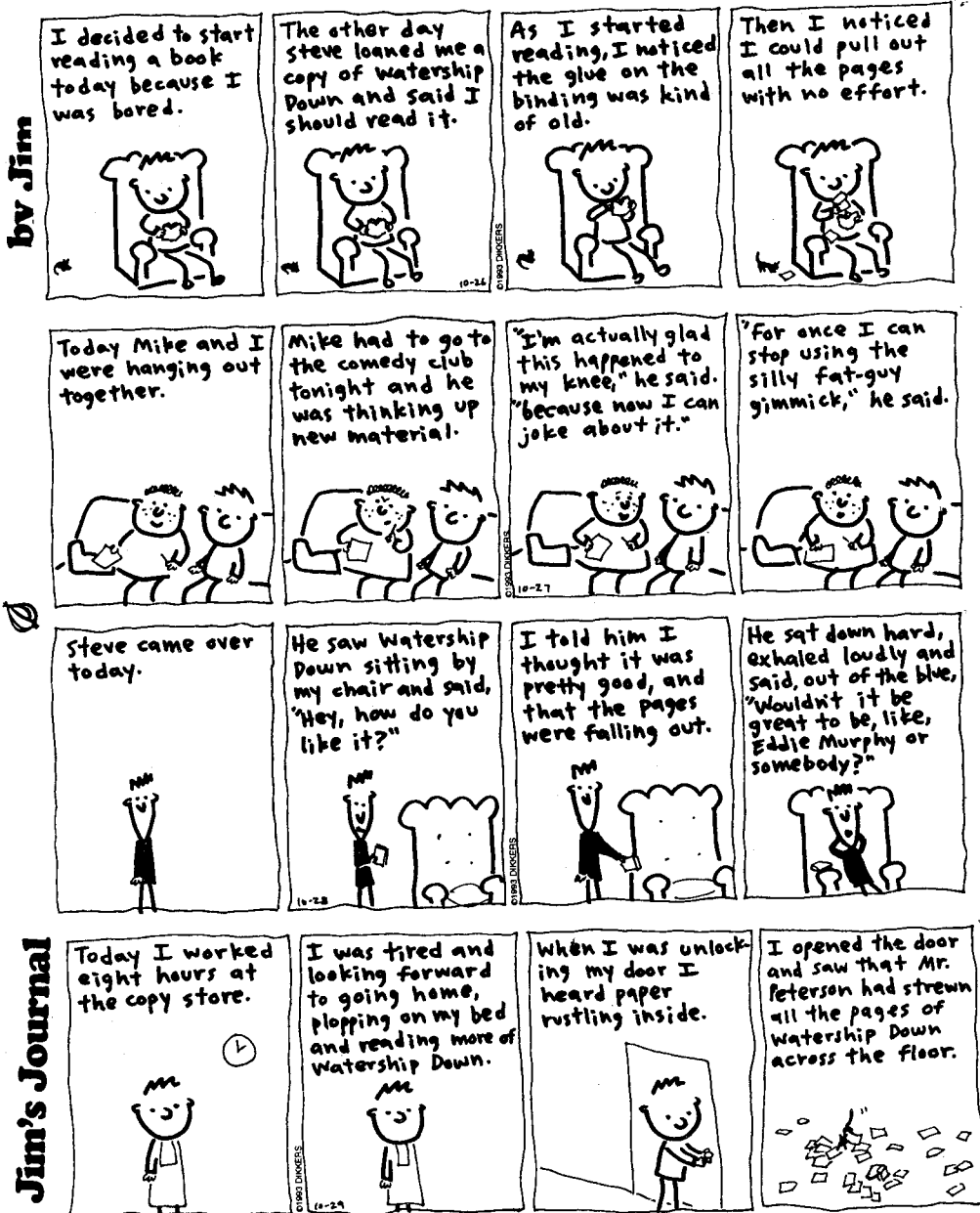
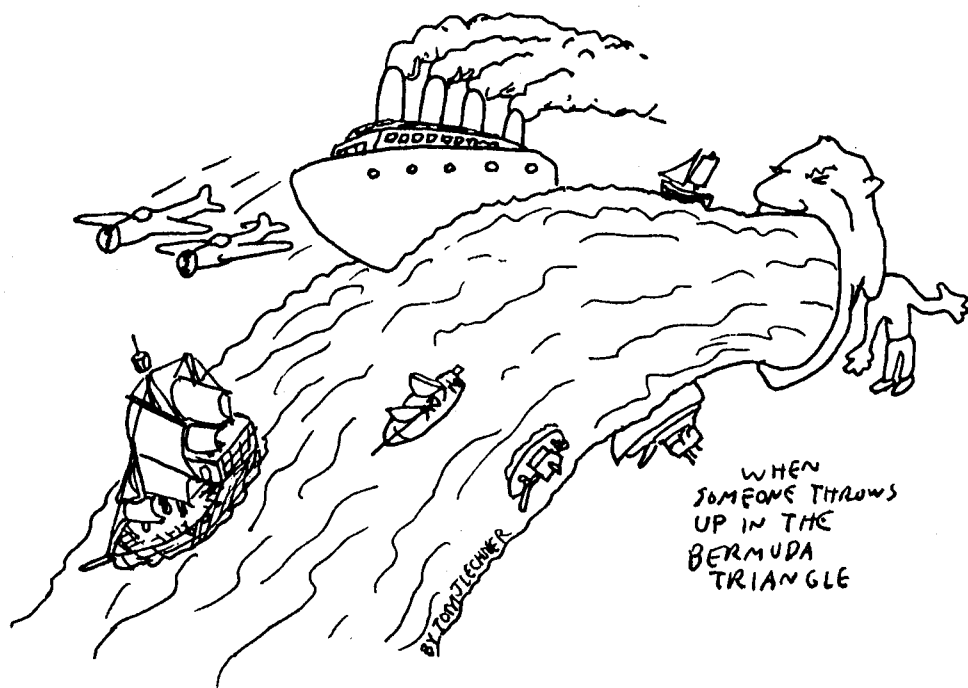
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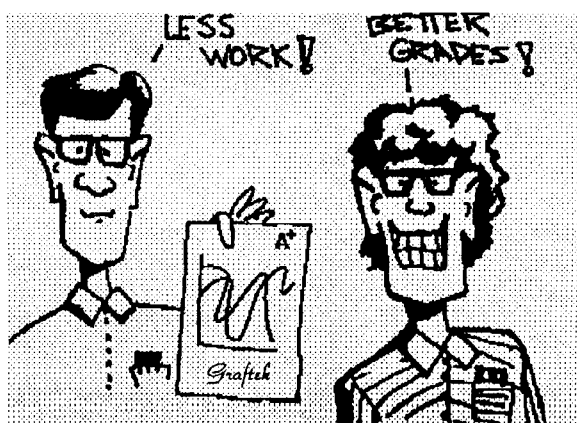
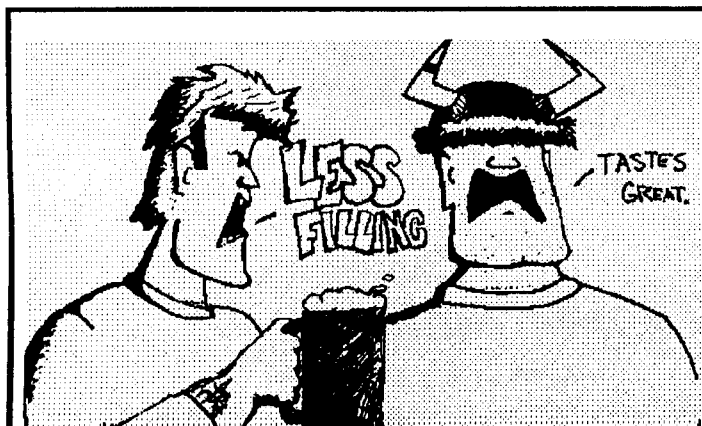
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TRAVEL AGENCY

continued from page 1

Conference

role in reducing it, was discussed, as was the imprudence of master keys being widely available.

Quality of Teaching

Present, November 10: Ben McCall (chair), Jennifer Copas, Flora Ho, Joe Lee, Jon McDunn, Katy Sippel, Geoffrey Smith, and Prasanth Surampadi (students); Sunney Chan, Steven Frautschi, James Lee, Vincent McKoy, and T.A. Tombrello (faculty).

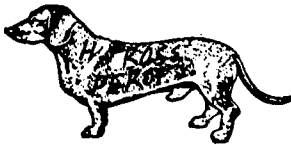
Deficiencies in the quality of teaching fall into two categories: blatant (e.g., arriving late to lecture, not preparing lecture notes, unresponsiveness to students' questions), and subtle (generally involving an inability to convey ideas or a lack of enthusiasm). Although many professors appreciate receiving direct, constructive comments from students, not all are receptive, and students tend to avoid criticizing professors directly. Certainly both the professors and students need to work together to close the feedback loop—the question is, how can we increase dialogue between students and professors? Right now, the only available channels are the ombuds system, teaching evaluations, and speaking directly to the professor. Other suggestions included bringing in TAs as mediators and introducing more tutorial classes.

Improving Communication
Present, June 1 and Nov. 4: Jill Bush (chair), Remy Hathaway, Karen Shih, and Eric Slayback (students); Jim Bower, Judith Cohen, and Richard Murray (faculty).

Why do students and faculty interact less than students would like? What are ways to increase interest among both students and faculty

in the quality of student/faculty interaction? While student/faculty social activities (like wine and cheese parties) allow non-academic interaction, students often feel uncomfortable or unwelcome in such situations. Perhaps a better idea would be to emphasize the need for more research-oriented interaction, which would allow for

both academic and non-academic contact. This hinges on the availability of money from the departments (should more funds be made available for SURFs?) and time from both professors and students. Also discussed was the role of the undergraduate Advisor—what is it, and how can it be expanded—as well as that of the MOSH.



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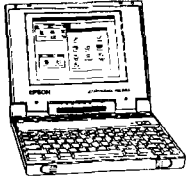
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* Note: asterisks denote new announcements.

Notices

* The ballroom dance lessons planned for tonight in Ricketts courtyard have been postponed for two weeks. On December 3, lessons will be given in Cha-Cha and Foxtrot from 7:00 P.M.—8:30 P.M.

Don't Board Your Pet this Thanksgiving! While I'm pet sitting/house sitting for a Caltech family, I'll also sit (spoil) your pets—for free! Available November 19 to December 5. Call Susan at (818) 796-8879 to have your pet cared for.

Events & Services

* The Career Development Center needs two student workers for winter and spring terms 1994. Students should be able to work at least 6 hours per week, have general computer knowledge, and have typing/data entry skills. Salary range: \$6.50-\$7.50. For more info, call Amy Malak at x6361 by December 3.

* **Museum of Tolerance**—A guided tour of the Museum of Tolerance will be offered on December 9th. A special photographic exhibition *Faces of Sorrow—Agony in the Former Yugoslavia* will be presented along with exhibits showing the Holocaust and the struggle for civil rights in America. The tour is open to the entire Caltech community, but the number of available tickets is limited. For more information stop by the International Student Programs Office or call x6330.

* Author and Caltech alumnus **David Brin** will discuss his most recent novel, *Glory Season*, at the annual FOCAL dinner on December 13th at the Ath. Brin will autograph books during a social hour at 6. Reservations are \$45 for FOCAL members, \$55 all others. Call Gloria Thomas, x6411.

* The German Film Series continues Thursday, December 2 with *Das Boot* (1982). The film will be shown in Baxter Lecture Hall at 7:30. It has English subtitles and is free of charge.

* Caltech Student Branch of the IEEE (Institute for Electrical and Electronic Engineering) will be sponsoring a student/faculty luncheon at 12 P.M., Friday, November 19. Bring your lunch (brown bag or TFM) to Winnett Lounge. This is a great opportunity to meet professors, learn about their research, and raise questions and concerns. All are welcome. Please bring any completed IEEE applications you may have.

* **Caltech Cyclo-Commuters meeting** Monday, November 22, Benioff Room (256 S. Mudd), noon. We will discuss various topics including placement of new racks and bike lockers due on campus soon. Bring your lunch. For further info, contact Riley Geary at 395-6946 or send e-mail to riley@bomby.gps.caltech.edu.

* **Auditions** for the TACIT musical "Side By Side By Sondheim" will be held on Sat. and Sun, Nov. 20th and 21st, from 1 to 5, in the basement of Baxter. For more info., call x6259 and leave a message.

* **Free Concert**—On Monday, November 22, at 5:15 P.M. there will be a free concert in Dabney Lounge by the members of the Chamber Orchestra at St. Matthew's. They will perform numbers by Mozart, Bruch, Schubert, and Schickel. Come when you can and for however long you can. Questions? Please call Professor Tom Neenan, x4072.

The Caltech-Occidental Concert Band will present a concert on November 20, 1993, at 8:00 P.M. in Beckman Auditorium with soloist Jane Wei, and Cosmo the Magician, who will perform a magic act to the music of Disney's *Aladdin*.

Events and Notices

Occidental-Caltech Symphony Orchestra—Concerts will feature: the overture to "The Merry Wives of Windsor" by Nicolai; Sinfonia India, by Chavez; Concerto in E Major for Double Bass, by Dittersdorf; and Symphony No. 8 by Beethoven. Allen Robert Gross will be conducting, and David Young will be playing double bass. Monday, November 22, 1993 at 8:00 P.M. in Ramo Auditorium (for information, call (818) 395-4652), and Tuesday, November 23, 1993 at 8:00 P.M. in Thorne Hall, Occidental College (for information, call (213) 259-2785).

The Caltech Women's Tennis Team is hosting the 1993 Beaver Fever Tennis Tournament on November 20-21. Entry fees are \$10 for singles and \$15 each doubles team. The events are women's and men's singles and mixed doubles. Please contact Coach Karen Nelson at x3265 for more information. All of the Caltech/JPL community is welcome to enter.

You Can't Take It With You—Come see Teachers in TACIT's production of this immortal comedy. The show runs evenings in Winnett Lounge, Nov. 12, 13, 19 and 20 with matinees on Nov. 14 and 21. Tickets available at the door or through the Caltech Ticket Office (x4652) for \$6.00 or only \$4.00 for Caltech students.

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—This week's meeting is Wednesday, November 14 at noon in 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:

Tuesday, 11:30 A.M.: 10 to 15 easy miles
Wednesday, afternoon: off-road ride; times vary
Friday, 8:00 A.M.: women only road ride
Saturday, 10:00 A.M.: off-road ride
Rides leave at the time listed, so please arrive a few minutes early. For more information, contact Michael Kantner at x4882 or e-mail to cycling@cco.

The Caltech Gay/Lesbian/Bisexual Support Group meets the first and third Tuesdays of each month 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, call 395-8331.

* **Adult Children of Alcoholics**—this 12-step group meets on campus each Tuesday from noon to 1 in Spalding Lab room 113. The group is open to any member of the Caltech community who grew up with family alcoholism or other problems. For more information call Dinah Lee Schaller at 395-2961 or 395-8331.

* The 5th annual **Posada Walk for AIDS Assistance** will be held in Pasadena on Saturday, December 4th from 5:00-6:30. The walk is 1.9 miles. To register or for more information contact All Saints AIDS Service Center's Posada hotline at 796-5830.

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 (garn@zhmeia.caltech.edu).

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

Undergraduates in math, applied math, and physics or otherwise interested in mathematics are encouraged to attend the **Annual Charles R. DePrima Memorial Undergraduate Mathematics Lecture**, to be held December 1, 1993, 4:15 P.M., in 151 Sloan. The Charles R. DePrima Memorial Undergraduate Mathematics Lecture was established by a gift from Charles R. DePrima and Margaret Thurmond DePrima. The Institute is privileged to honor the memory of Professor DePrima with a lecture each year by an outstanding mathematician. DePrima served as a faculty member at Caltech for over forty years. Ray Redheffer, UCLA, will deliver the lecture; his topic is "Information, Probability, and the uniqueness of you and me." The lecture is free.

* **Science, Ethics, and Public Policy Seminar**—Wednesday, December 1, 4:00 P.M. in the Judy Library, Baxter Hall. Dr. Paul Churchland, Professor of Philosophy at UCSD will discuss

"Recent Work on Consciousness: Philosophical, Theoretical, Empirical." Refreshments will be served.

Scholarships, Internships, & Competitions

* The prep session for the **Putnam Math Competition** will be held on Tuesday, November 30 at 7:30 P.M. in room 351 Sloan. This will be the only formal prep session before the competition on December 4. Refreshments will be served.

Rotary Scholarship—If you missed the November 12 information meeting on the Rotary Scholarship, please contact Lauren Stolper, Fellowship Advisor for information and application materials. Call x2150 or drop by her office by Lloyd House.

Zonta International Foundation Amelia Earhart Fellowship—provides grants of \$6000 for women who will be or are pursuing graduate studies in an aerospace-related science or engineering field. Call Lauren Stolper, Fellowship Advisor for further information at x2150.

Visit China—The **Durfee Foundation** invites Caltech students, staff, faculty, and recent alumni (those who have earned degrees in the last seven years) to apply for funds to support up to a year of travel, study, or exploration in China. Proposals that reflect a personal interest and vision related to China will be accepted between now and June 1995. The program is looking for projects in the range of \$3,000 to \$20,000 which will run no longer than one year. For further information and a brochure, contact Caltech's Office of Foundation Relations (x3969).

For information on the following scholarships, please contact the individuals listed at the end of each scholarship.

United States Department of Energy: Integrated Manufacturing Pre-doctoral Fellowships—The United States DOE is offering twelve three-year fellowships for study toward the Ph.D. degree. Eligibility is limited to citizens, nationals, and permanent resident aliens of the United States, who will have received a master's degree by the fall of 1994, but evidence of equivalent post-baccalaureate professional industrial experience may be offered by the applicant in lieu of the master's degree. There is a stipend of \$20,000 per year, and up to \$15,000 per year will be provided toward tuition and fees. Selection is merit based. Contact: Fellowship Office, National Research Council, 2101 Constitution Avenue, Washington, D.C. 20418, or call (202) 334-2872. Initial application date is November 5, 1993.

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

The annual **Mensa Scholarship Essay Contest** is here again. The essay should present clearly and concisely the applicants 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 **American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.** is announcing its Grant-in-Aid program. To be eligible for the program an applicant must be a full-time engineering student in the final two years of undergraduate study and have a cumulative grade point average 3.25 or above. The Grant is intended to encourage the student to prepare for service in the HVAC&R industry, and to stimulate his/her interest in research. Applications must be received at ASHRAE Headquarters by December 15, 1993, to be considered. Applicants will be notified of the results by April 1, 1994.

The **Association of State Dam Safety Officials, Inc. (ASDSO)** is offering two scholarships, in the amount of \$2500 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. Announcement of successful candidates will be made in the spring of 1994.

The **American Society of Naval Engineers** is sponsoring a \$2000 scholarship for the 1994-95 academic year. The candidate must be a U.S. citizen, demonstrate a genuine interest in a career in naval engineering, and be applying for support for the last year of a full-time or co-op program or one year of graduate study leading to a designated degree in an accredited college or university. Application and supporting documents must be received by the association by February 15, 1994.

The **Data Processing Management Association** is offering two scholarships for \$1,000 each provided by the Bert A. Monaghan Scholarship Fund. Applicants must have financial need and have made Computer Science their major career goal. The Scholarship Committee must receive the application by November 19, 1993.

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