



Dabney's recent frosh bonfire warmed hearts and minds, melted windows, and inspired some women to shed clothing. Photo by Elaine Lindetef

## Goodstein Details Advances In High-T Superconductivity

by Craig Volden

What's up in superconductivity—besides the temperature? This was the question addressed by Professor David Goodstein at the Watson Lecture on Wednesday. His lecture specifically focused on the history of superconductivity, the new discoveries in high-temperature superconductivity, and its possible applications to industry.

Superconductivity was discovered in 1911 by Heike Kammerlingh-Onnes, who was one of the first scientists able to conduct experiments at very low temperatures. Expecting the resistance of a current to increase as the motion of the molecules slowed down near absolute zero, Kammerlingh-Onnes conducted such an experiment and found the opposite effect. At 4 K, the resistance dropped to zero.

Superconductors were then studied in greater depth and found to have certain consistent properties. Their resistance was truly zero, not just nearly zero. They had the ability to create very large magnetic fields. They were made of materials that were somewhat troublesome to produce, such as niobium-10. And they required cooling which could most easily be done by liquid helium.

Over the years, theories were developed and materials tested which seemed to agree that the highest temperature for superconductivity would be 25 K. However, in 1986, in Zurich, two scientists, Bednorz and Muller, broke through this temperature using a ceramic pottery-like material. Word of this discovery spread quickly with physicists around the world confirming and advancing these results with different "types of pottery."

Then, superconducting temperatures began to shoot up. Bednorz and Muller found superconductivity at 30 K; Chu *et al.* in Houston, at 93 K (above both liquid air and liquid nitrogen, thus reducing the low-temperature expense considerably); the news media, 400+ K (above room temperature).

Not only did the press jump ahead of the research, but the business world also immediately wanted to benefit. Marathon seminars were held, newsletters dispersed, and journals released. Goodstein classified these as the "only successful commercial products" of high temperature superconductivity so far.

### Fun with Superconductivity

Suggested applications are varied. Rebuilding our system of power transmission to save electricity was suggested. However, the drawbacks currently far outweigh the advantages: the present system loses only about ten percent power as opposed to zero percent for superconductors; the materials of high temperature superconductivity are expensive and difficult to produce; superconductivity would only allow direct current; high temperature superconductors, so far, carry one thousand times less current than conventional superconductors; and problems with one part of the system would produce heat transfer, causing a meltdown of the entire system.

Because of their ability to produce large magnetic fields, the new superconductors have taken new possible applications. Super-speed trains were suggested. However, economic unfeasibility and general nervousness about safety have put dampers on this usage.

Other suggestions which Goodstein mentioned include a superconducting supercollider,

applications to nuclear fusion (unfortunately, the new ceramic materials are subject to radiation), energy storage for SDI or evening power supplies (but problems with huge magnetic pressures on the pottery and with switching to this system make this option questionable), use in computers, and use in space. Goodstein felt that superconductors would eventually be used in computers to allow very high speeds through very small parts without heat or meltdown. The applications in space involved the aspect that the temperature in space is already very low. Some possible uses are magnetic guidance systems for re-entry, propulsion systems, motors, and generators.

As of yet, physicists have not concurred on a theory of why superconductors work or what the highest temperature for them would be. This summer, Professor William Goddard of Caltech released a specific theory based on the materials and properties of superconductors which stated that the maximum temperature is 225 K (warmer than dry ice, but substantially colder than room temperature.)

Goodstein also mentioned another theory that the late Richard Feynman had once projected. The material of highest superconductivity will be found to be scandium, Feynman stated, "because it seems to have no purpose yet discovered."

Goodstein spoke of possible progress forward, and concluded with a chart on mankind's long-term progress. The human race passed from the pottery of the Stone Age, through the Bronze Age and the Iron Age, to the Modern Age and, in the last two years, into the "pottery of high temperature superconductors."

## Early Morning Thefts Amuse Lloydies, Darbs

by Brian Lemoff

Early Saturday morning, in what appear to have been related incidents, rooms in both Dabney and Lloyd houses were broken into and student belongings were removed. In both cases, all belongings were recovered.

The first burglary attempt occurred in Dabney shortly before 3 a.m. Saturday. Two suspects, a large black male and a white or Hispanic male with a distinctive new wave haircut, stole a briefcase, a walkman, and sunglasses from one room and a Dabney House sweatshirt, a pair of dress shoes and some compact discs from another, as freshman Robert Hanna and senior Todd Kaplan were returning to their rooms from watching a movie.

It was dark and foggy, making it difficult to accurately perceive anything. As the students entered their alley, they passed the two suspects, who were leaving with Kaplan's shoes, sweatshirt, and compact disk cases. Kaplan apparently did not notice that his belongings were being carried away.

Hanna, suspicious, asked Kaplan whether he recognized the two as Caltech students. Kaplan replied, "I don't know, they must be frosh." Kaplan retired to his room, while Hanna went to the bathroom. Apparently the two burglars returned and entered Hanna's room during this time. When Hanna came out of the bathroom, he spotted the two burglars exiting his room, carrying his briefcase, his roommate's walkman, and wearing his roommate's sunglasses.

Hanna ordered the two to "Drop it," in a voice loud enough to wake many house members. According to Hanna, the burglars dropped part of the loot and ran. After Hanna repeated his order, the burglars dropped the remainder of their stolen loot and fled on ten-speed bicycles. Hanna last saw the two traveling east on California Boulevard.

Two hours later, Lloyd junior Alan Golightly, returned to his room after watching a movie and noticed that his briefcase and all of his compact disks were missing from his closet. Golightly searched the house and found two people in the lounge playing pool.

One of the two Golightly recognized as Lloyd freshman Jong Moon, but he could not place the second, who wore a Caltech Alumni Fund T-shirt. The stranger identified himself as "Bill Galano" from Blacker House.

Golightly then noticed his missing briefcase sitting under a table and asked Galano if he knew to whom it belonged. Galano denied this knowledge. Moon went to call Caltech Security but did not know the phone number. Galano offered to call Security, pretended to call, and returned to his game.

Golightly followed with his own call, and when Security denied having just received a call, Golightly asked that an officer be dispatched to Lloyd House. Hearing this Galano fled. Golightly chased Galano and tackled him in the courtyard between Lloyd and Page, where the two wrestled for some time in a patch of bushes. When security arrived, Galano, later

identified by Pasadena police as Arturo Galindo, was handcuffed and held in the security office until the police could take custody. Golightly was taken to the hospital, where he received four stitches in his leg.

Hal Ginder, director of Caltech security, believes Galindo was also involved in the Dabney burglary attempt, since Galindo had a haircut similar to that of one of the Dabney House suspects. The police, who had several warrants for Galindo's arrest, took him into custody based on those warrants. On Tuesday, Galindo had not been charged with anything relating to Saturday's events.

According to Ginder, there is enough evidence to convict Galindo of the Lloyd attempted burglary. Jong Moon has confirmed that Galindo was carrying Golightly's briefcase and then put it down when he began to play pool. Also, the Caltech Alumni Fund T-shirt that Galindo was wearing actually belonged to Golightly. Said Golightly, "I didn't realize it was my shirt until after I trashed it."

There may also be a case against Galindo involving the Dabney House break-in. In both cases, burglars stole compact disks, briefcases, and shirts with Caltech affiliated logos. These they used to try to pass themselves off as students. Thieves in both instances wore sweatshirts tied around their waists.

Neither of the witnesses to the Dabney House incident has seen Galindo since he was captured, but their description of one of the Dabney intruders' haircuts points toward Galindo. The rest of their physical description is shaky, and unless they can positively identify Galindo in a lineup, it is unlikely that he will be charged with the Dabney break-in. The other suspect involved in the Dabney break-in, described only as a large black man, remains at large.

[Late note: As this goes to press, the editors have learned that an unidentified man roughly matching the description of the second person involved in the Dabney incident was found loitering in the Ruddock House lounge Wednesday morning. He was apprehended by campus security; however, since the only positive charge that could be pressed against him was loitering, he was released with a warning to avoid the campus.

We emphasize that Caltech community members who notice any unidentified or suspicious persons on the campus should call Security directly (x4701, or x5000 in emergencies.)]

## Senior Class Elections Invalidated

Senior class elections are being reheld today due to theft of the blank ballots from the Fleming House lounge last Friday between 5:00am and 8:00am. Don't forget to vote.

opinion

Today's issue of the *Tech* contains three letters defending the editors of the **Big T** and condemning the BOD for their decision to reduce the editors' salaries.

Without wanting to seem too eager to jump into this controversy, I [I hate that editorial "we"; the three of us are not of one mind on this issue, and I'm speaking for myself] feel that there are certain things that have not yet been said concerning this issue. So, not without some trepidation, but also not without a certain glee, I hereby plunge ahead with the Official Nobody-Approved Editorial on the subject.

The Fleming cannon occupies a peculiar place in the minds of Techers. It is undoubtedly an extremely visible symbol to both the student body and to the world at large. Its history embodies, for many people, both Techers and non-Techers, the concept of the high-profile, yet nondestructive, pranks for which Caltech undergraduates are justly famous.

At the same time, it is not the "Caltech" cannon. It is the "Fleming" cannon. It is the undeniable "property," at least as we Techers understand property, of Fleming House. It is held, in fact, in such high esteem by Fleming (one hesitates to say by Caltech) that it is RF-proof, along with the Fleming scoreboard, the Fleming bell, [the Fleming Country Club Sign? I'm really not sure, there's no little t yet] and the Fleming wall flag. (If the reader notices a pattern in this list, there's a reason.) It is probably safe to say that there is no house artifact more emotion-laden than the cannon.

It is evident, at least to me, that the editors of the **Big T** either a) meant the cannon cover as a portrayal of a Fleming House object, and knew they were putting one over on the rest of us, i.e. RFing the student body via the cover of the **Big T**, or b) meant the cannon cover to be something with which the entire student body should be associated, and not therefore a specifically Fleming House object.

Either of these has interesting ramifications. (The fact that the cannon cover was put forth by only three members of Fleming House would be significant were it not for the fact that all or most of Fleming House, and indeed many other members of the com-

munity, including one of my fellow editors, defend their action.)

If the editors were acting as Fleming House partisans (the infinitely more plausible situation, in my opinion), and the cannon was therefore used in an RF, then the spirit of the RF-proofing of the cannon has been violated. Using a non-RF-able item in an RF seems certainly unfair and more than a little hypocritical, if not BOCable.

The inference is therefore that an honorable and consistent person who defends this action and motivation implies that the cannon is no longer to be considered free from RF's. I am sure that the point will be contested, but it should certainly be a matter for discussion by the BOD.

Or should non-RF-able items be usable in pranks? Can the cannon be used to shoot items at other houses -- or to hide stolen items from other houses? If so, how is this different from a person declaring that s/he does not wish to be showered under any circumstances, getting the BOD to agree to it, and then walking into some other house, grabbing the nearest person, and attempting to shower him/her?

Or perhaps the cannon was meant to be a symbol of the entire student body after all, and not merely as a Fleming object. (This seems to be the more common defense raised; I personally consider it preposterous, but I'm willing to concede the possibility.) This would mean that the cannon is now to be considered property (remember the discussion above?) of all the houses, and not merely Fleming. (If it's our symbol, we all should have some say in its status, no?) This raises the concern of when the cannon will be placed in front of some other house than Fleming, which has certainly monopolized this campus-wide symbol for far too long. (Wouldn't the cannon look good in green? Or maroon? Or blue?)

Or perhaps those who defend the actions of the **Big T** editors, specifically those defenders who feel strongly about the cannon and its current status, should think about what they are saying. Those who defend the cannon cover are stating that the cannon was used in an RF, and therefore should not be RF-proof; or else they are stating that the cannon is a campus-wide sym-

bol, and therefore should not be considered Fleming property. I cannot see consistency in any other claim.

Recognizing, though, that anything that has been unfair for long enough becomes the status quo and therefore supported by all "reasonable" and "right-thinking" persons, I know that no real attempt will be made to declare the Fleming cannon either RF-able or campus-wide property. I therefore submit the following, more modest, statement for consideration by those who feel that the BOD's ruling was inappropriate. The cover of the **Big T**, along with other assorted (and uncontested) items within the yearbook which were biased towards Fleming House, was judged to make the **Big T** partially unsatisfactory to the student body, hence the partial refusal of the editors' salaries. The most useful thing which this penalty can do is to inform future editors of the **Big T** that the current year's issue "crossed the line" into unacceptable house bias. The hope is that future editors will learn from this ruling where that line is. Judging from their letter today, however, it seems that the new **Big T** editors are more concerned with safeguarding their upcoming salary against all threats, justified or not. It is hardly surprising, considering where their interests lie, though a little disappointing, to see the new **Big T** editors take this position. Does it raise concern for the content of next year's **Big T**? Only if the BOD backs down from their current position. In my opinion.

*I feel the need to point out that I recognize my inability to avoid bias on this, or indeed any, subject, by virtue of the unfortunate fact that I was not picked into Fleming, back in the twelfth century or so when I was a frosh. Everything I say, including any disclaimers, should therefore be taken with a liberal dose of salt. -al*

Campaign Statement

Hi, I'm Pierce Wetter and I'm running for Senior Class President. If I'm elected, I promise to... Ah, but I can't tell you what I'm going to do for ditch day, because the GODDAMN FROSH will read this. As I enter my fourth year here, I've discovered something. I'm sick of the GODDAMN FROSH. NO I DON'T WANT TO HELP YOU WITH YOUR Ph1 HOMEWORK. NO I DON'T KNOW WHERE SLOAN ANNEX IS. DITCH DAY? IT'S TOMMORROW. WHAT DO MEAN DITCH DAY CAN'T BE ON SATURDAY? HOW WOULD YOU KNOW? WHY DON'T YOU GO PLAY ON THE FREEWAY. SORRY, one of the frosh just walked into my room. AND GET ME A BEER DAMMIT! Now, where was I. Oh, yeah. THE GODDAMN FROSH. They're always around with nothing to do but their trivial frosh homework, bitching and whining about how much harder Caltech is then High School. YEAH? SO LEAVE! Or they're in an UPPERCLASSMAN class like

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letters

To the Editors:

Ever since printing was discovered, it's been said "Never judge a book by its cover!" I think nowhere is this more germane than in the 1988 *Big T*. Granted that several items in the yearbook could (and probably should) have been presented differently, I nevertheless strongly believe that last year's editors have been unfairly treated by the ASCIT Board of Directors, who voted last week to award the three editors \$450 instead of the \$1100 they're entitled to in the By-Laws (\$500 salary, \$400 bonus, and \$200 for two Assistants).

The first, and probably most complex, issue is whether or not the editors completed their work satisfactorily. Foremost on the list of objectionables is the line drawing of the Fleming cannon on the cover. It's been correctly stated that the judgement of the editors was probably erroneous, who, by placing their House's symbol on the student-body yearbook have pitted Fleming against the rest of the campus. That the editors performed their duties in an unsatisfactory manner, and therefore deserve far less compensation than normally granted, is a different matter. The cover is not the sole item in the *Big T*. There are countless man-hours spent on gathering senior pictures, collecting color photos, arranging club sections, organizing faculty photos, outlining page sections, shooting sports pictures, typesetting page contents, and discussing general format. The cover is one item among many that the editors are responsible for. Extrapolating from an unsatisfactory cover to an unsatisfactory yearbook is an act that is unfair, wrong and utterly out-of-line with the values we believe in. Just because the cover is inappropriate does NOT make the yearbook unsatisfactory. Of course it's also been said that the page numbering on pages 126, 136 and 156 is uncalled-for. I agree. This likewise, though, does NOT make the yearbook unsatisfactory.

For these reasons, I firmly am convinced that the editors should have their \$700 (\$500 salary and \$200 for 2 Assistants), as stated in the By-Laws.

Let's now turn to the issue of the bonus of \$400. I think everybody will agree that the spirit of the bonus is to get the editors moving, so that the *Big T* will be out around registration. Not only were last year's editors on time in their submission of the *Big T* material, they were in fact THREE WEEKS EARLY. This has never happened in the past, as far as I know. The *Big T* has rarely come out around Registration. What happened last year was that I was waiting on a couple of ads, totaling around \$1000, to arrive, at which time I sent in the final section of the yearbook. It was about ten days later than originally planned. Thus, the yearbook came out ten or so days

later than expected. It is definitely NOT the editors' fault by any stretch of the imagination. I delayed submission because I felt it to be justifiable to delay the yearbook by ten days and earn an extra \$1000 for the *Big T*, which could then be invested in next year's issue. As it turned out, I made a mistake: I should have turned in what I had and said fuck next year's *Big T*. The whole issue seems to have been blown out of proportion because of the Fleming cover.

Therefore, I not only believe last year's editors should receive the \$400 bonus, but also be commended for submitting the material three weeks early. I think the BOD has committed a serious error in judging the yearbook only by its cover!

Sincerely,

-Bassem Mora  
Business Manager  
1987, 1988 & 1989 *Big T*

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THE 1988 CANDIDATE SURVEY  
WHERE DO THEY STAND?

LEO McCARTHY (D) vs. PETE WILSON (R)

The following is the result of a survey of Senatorial candidates, developed and compiled by the non-partisan National Student Campaign for Voter Registration, on issues of student concern.

| ISSUE   | McCARTHY | WILSON |
|---|----------|--------|
| <b>STAR WARS:</b><br>Do you support an increased level of funding for the Strategic Defense Initiative?   | NO       | YES    |
| <b>NUCLEAR WEAPONS TESTING:</b><br>Do you support an end to the testing of nuclear weapons?   | YES      | NO     |
| <b>CONTRA AID:</b><br>Do you support sending military aid to the Nicaraguan contras?  | NO       | YES    |
| <b>GUN CONTROL:</b><br>Do you support a mandatory seven day waiting period and criminal background check for gun purchases?                             | YES      | YES    |
| <b>MINIMUM WAGE:</b><br>Do you support an increase in the minimum wage to \$4.65/hour over the next three years?  | YES      | NO     |
| <b>CAMPAIGN FINANCING:</b><br>Do you support efforts to eliminate political action committee contributions to congressional candidates?                 | YES      | YES    |
| <b>HEALTH INSURANCE:</b><br>Do you support legislation guaranteeing basic health insurance to all Americans?  | YES      | NO     |
| <b>FAMILY AND MEDICAL LEAVE:</b><br>Do you support the Family and Medical Leave Act, which would provide unpaid job-guaranteed parental and sick leave? | YES      | NO     |
| <b>ABORTION:</b><br>Do you support a constitutional amendment prohibiting abortion?   | NO       | NO     |
| <b>ACID RAIN:</b><br>Do you support legislation to reduce acid rain by cutting sulfur dioxide emissions by at least 10 million tons per year?           | YES      | YES    |

Sources: Responses provided by candidate or candidates' staff  
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ASCIT FRIDAY NIGHT MOVIE

CREATURE FROM  
THE BLACK LAGOON  
in 3-D!

BAXTER LECTURE HALL 7:30 & 10:00 p.m.  
\$1 for ASCIT members \$1.50 for others

NEXT WEEK *Sleeping Beauty*

# letters to the editors

from page 2

[To quote the ASCIT bylaws: Article XIV, Section 9: "For the bonuses in the previous section [regarding the Big T editor's bonus, among other officers] to be paid, the publications must be distributed no later than the following dates: the distribution date of the Big T must be no later than ten (10) days after the day of general registration first term of the following year..." If anyone can find implicit in that statement that the bonus can be applied when the Big T is distributed sixteen days after general registration, I hope he or she will write to the Tech and explain where. -al]

To the editors:

The Big T ... the big lie. Sadly, I have come to the realization that, for the past years (even decades), the Big T has been used by its editors for the sole purpose of making us think the way they want us to. Though the subtleties in the title page and the table of contents are shocking enough, it is the bold statement of the cover which is meant to brainwash everyone who reads it. In the beginning it was simple blue and orange...clearly school propaganda. Then in '59 the editors turned sinister and made it green! Obvious Darb intervention. The plain white of '78 obviously had Manson overtones, and the pink and yellow pastels of '79 were meant to make zombies of the Caltech community. In '82 they tried to make this swirly kind of pattern a Campus-wide symbol! Can you believe the gall?

I have spent hours trying to explain to my friends at Harvey Mudd that Millikan Library is NOT shaped like a T. The yellow cheesy compu-art of the '87 cover had them all confused.

I must warn you about the '88 cover. The editors spent a great deal of time and money to come up with a professional drawing of the Fleming House cannon because they knew that as soon as it got printed on the cover EVERYONE would immediately believe that it was the symbol of the campus. As soon as everyone has seen it the editors are going to come back and lead this new mass of brainwashed Techers in a rousing chorus of "page Sux!" Stop the madness before it gets out of hand!

(Or you can stop being hysterical. It's a nice professional drawing on a red cover. It won't bite).

Chris Habecker  
Fleming House

To the Editors:

Years from now, the only memories of Caltech many of us will have will consist of a few charred 95 exams and a yearbook called the Big T. As editors of the 1988-89 Big T, we find that we have an obligation to provide a yearbook that represents the complete Caltech undergraduate community. We think this can be best achieved by incorporating the unique character and many facets of the seven houses, the student clubs, athletic teams, and the vari-

ous academic and administrative departments.

Much has been said regarding the 1987-88 yearbook's apparent failure to represent a cross-section of the campus. According to the article by P. Ste. Marie in the October 21, 1988 issue of the California Tech, "...the Big T was ruled unsatisfactory due to the cannon cover... The BOD then voted 5-4-0 to give the editors \$150 each as payment for the satisfactory portion of the work performed."

In regard to the editors' salary, the ASCIT by-laws and resolutions state that "five hundred dollars will be paid upon satisfactory completion of the [Big T] editors' work." The editors certainly managed to produce a yearbook with satisfactory coverage of our campus & events. The issue of bias & equal representation then should not have affected the ultimate decision of the amount paid to the editors. We feel that the editors should receive the full salary of \$500 granted to them in the ASCIT by-laws and resolutions rather than the \$150 to each editor (which amounts to a \$450 salary) as awarded by the BOD. The BOD's decision regarding the satisfactory nature of the 1987-88 yearbook based on its cover (as stated in the above-mentioned article by P. Ste. Marie) is ludicrous.

Perceived flaws in the 1987-88 yearbook may not have been the fault of the editors themselves. For example, the color section, which some feel contains a disproportionate amount of Fleming photos, could be seen as being biased toward Fleming. But one will note that upon examination of the IHC minutes last year, Brian Catanzaro (one of last year's editors) stated at numerous IHC meetings that if other houses did not submit photos, the section would be primarily composed of Fleming House pictures.

We are not trying to defend or accuse anyone, but merely feel that there are reasonable explanations for the perceived flaws in last year's Big T, and that we feel that the yearbook was of good enough quality to warrant full salary payment by ASCIT to the 1987-88 Big T editors.

Sincerely,  
1988-89 Big T editors  
-Alecia Chen  
Garrett Choi  
Curt Hagenlocher  
Shyh-Chyuan Huang

Hey, editors:

I know you guys hate Flems and all, but I think that both the little t section of the "Big T Editors Decanonized" and the editorial comments in the Fleming Inside World were a case of "Tech editors severe out." I feel that the discussion in the ASCIT meeting was misrepresented somewhat. The impression I hope I gave to ASCIT was that neither the text of the little t nor the advertising was done at that point, and the status agreed on by the editors & business manager was that we would go to print at the end of the month. There are several reasons for this delay, and the editors are aware that we will not get the bonus as a result,

and we accept responsibility for the delay. As far as John Woolverton is concerned, our gripes were mainly with lack of communication over the summer, the fact that we didn't get funds for restaurant reviews because the bank account wasn't signed over until the end of the summer, and the fact that status of ads has not been clear at any point. My personal opinion is that if he has sufficient ads to pay for printing when the little t goes to print, I will have no serious complaints. The point here is that the delay in publication was not necessarily solely due to advertising, nor was it solely due to John Woolverton as was stated in the Tech last week. To my knowledge the exact date the book will return from the printers has not been determined, so the November 14 date at the beginning of last week's article should only be taken as a ballpark figure.

As a secondary note, I would like to make clear that the little t is in no way associated with the Big T staff, nor with Fleming House, and I feel that the editors' comment in the Fleming Inside World was entirely inappropriate both with respect to the little t and to Fleming House.

In the future, please avoid being severe in such a way that I take flak for it.

Thank you.

-Mark Montague  
little t editor

[The reasons for the late little t, as stated at the ASCIT BOD meeting, were lack of advertising and conversion to TEX from the Compugraphic equipment, and the impression given to both me and the members of the BOD I have consulted with was that both were the responsibility of the business manager (the decision, in the latter case, not the conversion itself). The comment in the Inside World was to illustrate Woolverton's connection between the late little t and his membership in the unsuccessful candidacy for Tech editor.

Regarding my feelings toward Fleming House, while I find many of their group activities highly annoying, I do not hate Fleming House, many of my friends have been members of Fleming House, and I highly resent the implication that I would slant an article because of my personal likes or dislikes. -PJS]

To the Editors:

I have a few comments relating to the parking situation. First, the question of the large number of abandoned cars. Keeping an abandoned car in a "prime spot" represents a serious honor code violation. I am sure that if the 200-300 abandoned vehicles (as reported in the October GSC Newsletter) greatly increase the frustration of Caltech people with legitimate needs for those spaces. Especially when you consider what a huge fraction of the spaces this must represent.

As part of the solution, the creation of a long-term storage lot is a good idea, since a lot of grad students can't afford to repair their cars.

I also think abandoned vehicles that don't have the new Caltech parking stickers on them should be towed off. Clearly, non-Caltech people should not be using Caltech lots for long-term storage. Moreover, if Caltech people really want to keep their cars, they should at least be willing to get the new stickers. If the owners can be located they should be given the choice between removing the vehicles themselves or paying for the towing costs.

These two steps would mean that the only abandoned vehicles left in the prime lots would be those with the new parking stickers. Thus, the owners could easily be contacted and encouraged to move their cars into the long-term lot. Failure to do so could be treated like any other honor code violation, or the school might just have the cars towed to the long-term lot.

These proposals would eliminate the presence of abandoned vehicles from prime lots. Assuming an existing lot would be designated as the long-term lot, the only costs would be administrative costs and the cost of towing cars whose owners cannot be located. I think these costs are well worth the reduction in frustration and time needed to park.

My other comment bears on the situation in the parking structure. I think the rule against overnight parking in the structure is downright insulting. Just because Catalina residents are only grad students doesn't mean our cars are automatically so valueless that they should be left out to bake in the sun, paint fading and interiors degrading. Are grad students really so worthless that they must leave their cars in the sun even when there are covered spaces available, just so that more "important" members of the Caltech community don't have to walk down an extra flight of stairs?

Since the structure needs all-night security guards anyway, why shouldn't it be used for overnight parking? Until someone gives me even one good reason why it shouldn't, I will continue to park in the unassigned spaces. I am surprised that anyone even uses the roof-top spaces.

And as long as we're counting the utilization of spaces, how about giving us the statistics on the assigned spaces at the bottom of the structure? A lot of them are empty a lot of the time. It would serve everyone's needs better if we eliminated a lot of the reserved spaces on campus and institute a parking classification system. About half of the eliminated spaces would be labeled "blue triangle," or some such, and only people with special "blue triangle" parking stickers would be allowed to park there. The rest of the spaces would revert to general parking. Those people who currently have reserved parking would be given "blue triangle"

stickers, which would still guarantee them parking in a good spot, even if they weren't parking in their regular place. So they actually have MORE parking freedom, and the rest of us have a few more spaces. Again, the only costs would be administrative—a lot cheaper than creating new parking spaces.

Such a system worked very well at Lawrence Berkeley Lab, ensuring that the meager supply of spaces was used efficiently. They actually had two types of premium parking permits: the real bigwigs were given "orange circle" stickers, which also got them into spaces that were even better than the "blue triangle" spots.

And as long as I'm giving you my parking wish list, how about giving Catalina residents keys to the parking structure? As long as there are doors in the back of the structure, why can't we use them?

Sincerely,

-Tom O'Neill

To the Editors:

I do not wish to belittle the Commencement speakers we have had in the last few years, but they have not exactly been the most charismatic and inspiring of people. Keynote speakers are supposed to, by the strength of their personality and character, leave a lasting impression on the minds of the new graduates. I got my M.S. from Caltech in 1985, but I have absolutely no idea who spoke at my Commencement or what he said.

What I cannot understand is why we have to keep drawing these speakers from the academic pool. What's wrong with great motivators like Tommy Lasorda and Pat Riley or entertainers like Bill Cosby, Johnny Carson or even Ronald Reagan? In the past, we have heard about some speakers being "unfit" for delivering the address. That's baloney! Surely we can learn something useful from a person who has kept the same job (if not the same wife) for 25 years in a dog-eat-dog world (Carson), one who has guided a team of kingsize egos to consecutive NBA championships (Riley) and one who literally willed a team, with enough injuries to qualify for parking in the handicapped zone, to the World Series title (Lasorda). In a world where it is increasingly clear that education and wisdom don't necessarily go hand in hand, it is foolish to detract from a successful person simply because he doesn't have a Ph.D.

I hope that in several months we have before the '89 Commencement, the concerned people will select a "different" person. Not only can we do with a change but also with the extra publicity that such a speaker will bestow on Caltech by virtue of his appearance (remember Gorbachev and Stanford?)

Thank you.

-Ravi Thyagarajan  
Graduate Student

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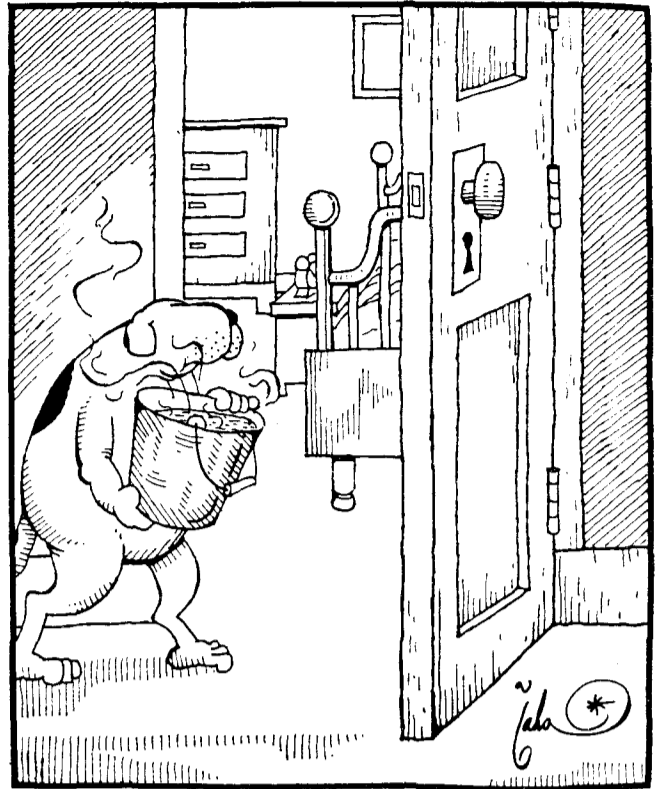
BLOOM COUNTY

by Berke Breathed

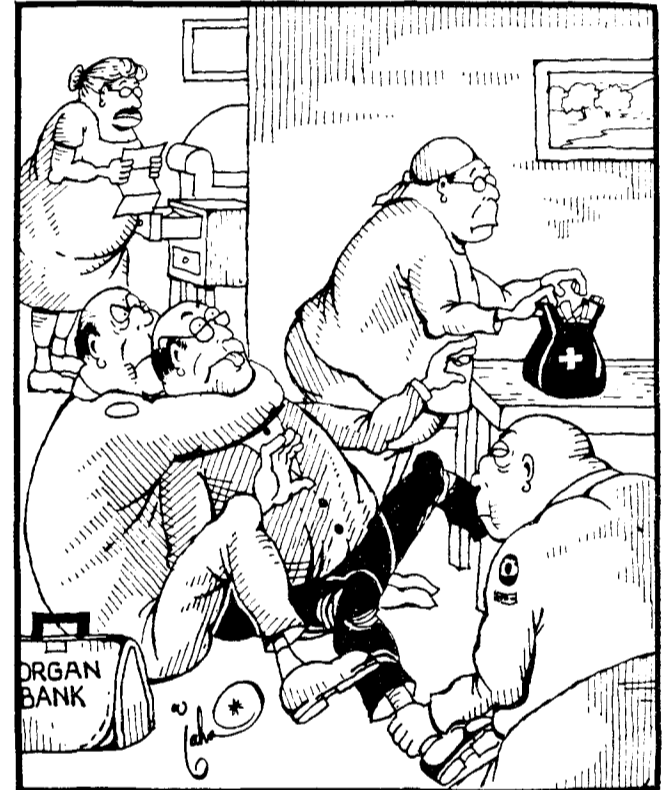


Odyssey

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Still upset about what happened earlier, Spot decides to give them a taste of how it feels to be interrupted during an intimate moment.



"Well, he's right, Henry. This donor agreement doesn't say anything about when the organ has to be donated."



"I'm sorry, Captain. I know you said 'Phasers on stun,' but I guess I had the darn thing set on 'dice' by mistake."

entertainment

# CIT "School for Wives" Hardy Novel Joins Science and Magic

by Amanda Heaton

As you walk into Ramo Auditorium just before a performance of TACIT's first-term production, Moliere's *The School for Wives*, directed by Shirley Marneus, the first thing you notice is the elaborate set and beautiful lighting, precursors of the excellent performance that is to follow. TACIT has done an unexpectedly good job with the traditionally undersupported first term show, using the talents of a variety of community members (both students and non-students) to provide a consistent and entertaining version of this fine French comedy.

The stage, set outside the house of M. de la Souche (Max Bryson) in a chic suburb of Paris in the nineteenth century, is aptly set by long-time TACIT set designer Eric Warren. Brick walls define the house, with a fine iron gate splitting the stage, demarking the garden. While the gate blocks the upstage access for many scenes, it adds depth to the stage and provides a strong playing ground for the actors. Careful attention to detail completes the effect. A harpsicord (with live music by Russ May) and chandelier grace one corner of the stage, while a street-lamp sits on the other corner; plants decorate the garden wall; and a fountain sits upstage, creating a centerpiece for the forbidden garden. The set also allows for use of all of the stage -- a window overlooks the street, where the actors can look down on the scene, and the wall blocking the garden slides away to allow for full use of upstage.

The mood thus wonderfully set, the actors can appear. Because in Moliere's day the stage was lit with candles, each act is only twenty

minutes long, and the first person to enter the stage is the "apprentice," a young lady (Christina Garden) responsible for lighting these candles. The superb lighting design, accomplished by Rex Rogers from OPE, adds immensely to the show. (The sunrise should not be missed). At this point, we also gain some appreciation for the costuming, which only increases as the evening progresses. Costume designer Maureen O'Heron designed and built about half of the costumes specifically for this show, an impressive accomplishment given the elaborate period dress required. The hair styling, done by Terry Robinson, also contributes to the beauty of the dress, with curled wigs gracing most of the actors.

Finally Chrysalde (Don Huntington) arrives on stage, and the play proper begins. He greets Arnolphe, M. de la Souche, who quickly conveys to the audience the intent of the play. He means to wed, he says, a girl so sweet and innocent that he should never be cuckolded, he having raised her to that purpose and now having her safe in the house we see before us. Already we suspect some mischance, and we are not to be disappointed. Arnolphe is played by Max Bryson, a long-time TACIT supporter, who was trained in the arts at the American Academy, and first appeared in a TACIT production in *The Lady's Not For Burning* and most recently was assistant director for *Oliver!*. The dialog moves quickly, and we soon meet the girl of his affections, Agnes, as well as the two inept servants guarding her (well done by Mary Ann Fundy and Bruce McLaughlin). Agnes is played in a not entirely innocent fashion by Diana Lettman, a Communications major

at PCC who is perhaps best known at Tech for her starring role as Nancy in last year's musical. The combination of naivete and intelligence she assigns to the poor girl plays well.

Not until the second act do we meet the young man who is to complicate the plot: Horace (Alan Corcoran). The young man in Paris, short on cash, finds that he has set his heart on the beautiful Agnes from having seen her in the window, and resolves to steal her away from the horrible M. de la Souche. To accomplish this resolve, he begs a small sum from his good friend Arnolphe, who thus finds out the plot. So as to be better informed, Arnolphe (de la Souche) pretends friendship to the lad, torturing himself thereby. A confused notary (John Hart), brought in to draw up the marriage contract (between Arnolphe and Agnes) finds Arnolphe distracted to the point of madness. Alan does a wonderful job with Horace, the bright-eyed, fearless, innocent youth who wins Agnes' heart.

It's only too clear how things turn out, but a lot of humor is derived from the interplay in the meanwhile. Two fathers (Ross TenEyck and Joseph Greene) arrive in the final act to straighten things out, and so the story ends. TACIT has produced a wonderful performance, as enjoyable as many professional productions.

Tickets are still available for performances at 8pm October 28 and 29, and 2pm October 30.

**Riddle of the Seven Realms**  
by Lyndon Hardy  
Ballantine, \$3.95 paperback

Lyndon Hardy, former Caltech undergrad and world-famous Rose Bowl prankster, has now written three fantasy novels utilizing the basic principle that you can apply scientific methods to magic. The first, *Master of the Five Magics*, introduced the basic rules of magic, to wit:

- 1) The Principle of Sympathy—like produces like;
- 2) The Principle of Contagion—once together, always together;
- 3) The Doctrine of Signatures—the attributes without mirror the power within;
- 4) The Maxim of Persistence—perfection is eternal
- 5) The Rule of Three—thrice spoken, once fulfilled;
- 6) The Law of Ubiquity—flame permeates all;
- 7) The Law of Dichotomy—dominance or submission.

These don't sound quite as obvious as the three rules of thermodynamics (you can't win, you can't break even, and you can't get out of the game), but they work in the context of a magical universe. The book is fun to read, as all of the basic types of magic are approached, from alchemy to demon-

summoning, and filed within the rules.

In *Secret of the Sixth Magic*, Hardy approaches the problem differently: he asks, "What if someone can change a basic principle, and does so." Think about it. What if someone could, even temporarily, change things to locally alter how a basic law of reality worked. This is frightening enough in physics, but really ghastly in the more tender realms of magic.

In *Riddle of the Seven Realms*, Hardy seems to ask the question: "Why do the guys we're cheering for have to be heroes, anyway." The main characters are a failed lady wizard, a con man, and a third-rate demon whose specialty is cataloging information. (A demon of information flow, in a way.) They bumble and stumble their way along, trying to save the world from itself.

The book is good, but unfortunately not great. The best character is the demon cataloger, Astron. The con man is too much like the typical rogue with the heart of gold, and the lady wizard is (literally) carried along for the ride for too long to be interesting. The best parts of the book are when Astron is striving to overcome the shortcomings of being a basically powerless demon in a situation too continued on page 6

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# Les Misérables at Shubert

by Bradley Scott

How you react to *Les Misérables* depends on your expectations. If you expect it to be the greatest spectacle that you have ever seen, you will be disappointed. On the other hand, if you merely expect it to provide a night of terrific entertainment, it will deliver.

*Les Misérables* tells the famous story of Jean Valjean who stole a loaf of bread to help feed his sister's family. He is imprisoned for 19 years. Upon parole, he finds that his criminal record makes it impossible for him to make an honest living, so he breaks parole, becoming a fugitive, and sets up an honest life for himself. He is pursued throughout the story by a man, Javert, whose goal is to bring Valjean to justice. Valjean reveals his identity to Javert when another man is mistakenly identified as Jean Valjean and is going to be punished for his crimes, but he again must flee justice to keep a promise that he made to Fantine, his sister, on her deathbed. This promise was to make certain that her daughter Cosette would be properly cared for.

The show is excellent; its only major problem is its grand scope. The creators have attempted to create a musical drama that captures the emotion and intensity of Victor Hugo's classic novel while still appealing to the masses. The result is a combination of musical comedy and pop opera. Ironically, it is the musical comedy that works best. The musical's best scenes revolve around a disreputable innkeeper and his wife who have been "taking care" of Cosette for Fantine. These songs, especially "Master of the House", poke wonderful fun at marriage and hypocrisy.

The serious side of the show does have its moments as well. In particular, the show's most memorable song, "I Dreamed a Dream", is Fantine's lament after losing her job and finding her life in shambles and is sung beautifully by Elinore O'Connell. But the show's greatest dramatic moment is, appropriately, its climax where Cosette and her soon-to-be-husband learn the true extent of Jean Valjean's great deeds.

Although the plotline is excellent, many people are more interested in the music and choreography of a musical than its story, and in these departments *Les Misérables* also delivers quite well. The songs range from pleasant to outstanding with most of the songs in the good range and at least three that in the superlative range. Likewise, the choreography is, for the most part, quite good and very appropriate. In the comic scenes, the

choreography is especially inspired.

*Les Misérables* plays until April 30 (at least). For Tuesday, Wednesday, Thursday and Sunday evening performances, there are 120 tickets available to be purchased by students for \$ 16.00. These tickets must be purchased in advance with valid I. D. at the Shubert box office which is about a half hour drive from Caltech. Otherwise, the tickets cost around \$40.00 depending, of course, on night of performance (weekends cost more) and location of seats (the orchestra and mezzanine seats are a little more expensive but well worth the few dollars). For ticket information call Telecharge at 1-800-233-3123. You can also purchase tickets at any Ticketron location such as the Caltech Ticket Office. The Shubert theater is located at 2020 Avenue of the Stars in Century City.

## Riddle

from page 5

chaotic for even a demon to enjoy.

The best bits of the book are when Hardy plays with creating different worlds. One world is somewhat like a classical world of Faery, another like an enormous game of 3-D Othello or something. The realm of Daemon is fascinating, but seen all too briefly, considering the importance it plays in the story. Also, the motivations of the beings in the different realms is basically good entertainment, but Hardy makes most of those characters very hard to like.

Overall, *Riddle of the Seven Realms* is worth reading if you liked the first two volumes, or if

you want a little non-standard fantasy. It is *not* a book that I would recommend to someone who has never read a fantasy novel before, and you really should read the first two novels before picking this one up.

Halloween approaches, and a local bookstore, Planet 10 (79 N. Raymond Ave. in the Old Town part of Pasadena) is celebrating with an open Halloween party on Sunday, October 30, from 2-4 pm. Coinciding with the party will be an autograph party with several less-than-superstar-but-still-OK horror writers, including Steve Boyett. The Planet 10 people are encouraging people to visit the store in costume, so use your imagination and have a little fun.

- Nick Smith

## Inside World

Blacker: Glenn EychanOR  
Dabney: Lyle Scheer and Erich Schneider  
Fleming: Dee Flem Frosh  
Lloyd: None submitted  
Page: Gary Eastvedt  
Ricketts: Kitt Hodsdon and Julius Yang  
Ruddock: Nik Joshi, et al.

[Editor's note: We received two Inside Worlds from both Dabney and Fleming this week, and none from Lloyd. We thought first to print both versions from both houses and let Lloyd swing in the wind, but then we reversed ourselves several times for reasons of ethic and convenience, until we figured we'd spent too much time on this stuff and printed the versions you see below in the spirit of exasperated compromise. Flushed with our successful resolution of this problem, we proceeded to amend heavily the Blacker Inside World, with the blessings of its writer. We considered writing our own version of the Lloyd Inside World and then toyed with nuking the entire seven-house column. From now on we will print all material received for The Inside World unless the presidents of the relevant houses persuade us not to. Not one word will be omitted. The responsibility to review will lie with the house presidents, who almost certainly will avoid the task. We will continue to edit for spelling, grammar, and punctuation. In addition we reserve the right to add text to any portion of The Inside World, but we will advise the writers whose entries are affected before publication, and they remain free to try to persuade us otherwise.]

**BlackerOR:** Takeover of the fASCISrT regime, episode the first and last (maybe).

All was going smoothly with the administration's coup of the reigning fASCISrT regime. Why, they even had them believing it was their own fault, the fools! The true undercurrents of the takeover were cleverly hidden behind a sugar-coated facade of promises about the continuation of the (f)ASCISrT movies and the Coffeeshouse. All was going exactly as planned until late, very late, extremely late one Thursday night...

Al: Man, we'd better insert subtle changes into the Blacker Inside World and get this Tech issue done before publishing time. Where the hell are my keys?

Paul: Can't you even open a door? Hurry up.

(Al opens door. A large group of people, including Tom, are in the room. Al notices a newspaper, nearly ready for publication, on the layout boards. Everyone in the room is, coincidentally, wearing a red shirt with a white F on the front. Funny that.)

Al: Who the fuck are all of you? What the hell do you think you're doing?

Paul: Calm down, Al. Now, YOU (points at a red-shirted person), who the fuck are all of you? What the hell do you think you're doing?

Tom: Nothing. (Looks around at other redshirts) Hey, who the fuck are all of you? What the hell do you think you're doing?

Red #1: We're the new editORs of the Tech!

Red #2: Here to make it the same, bORing birdcage liner...

Red #3: ...and fish wrapper...

Red #4: ...it was under the old unnameable (Steve) editORship!

Red #5: ...it was under the old unnameable (Steve) editORship!

Reds (in unison): But the administration said...

(Al and Paul throw out the red-shirted puppets of the administration, except for Tom, who is wearing a Faggot shirt.)

Red #1: Oh yeah! We're going to call Security!

(Al, Tom and Paul laugh and start on the paper.)

(Later the same mORning...)

Tom: Well, we've almost got it fixed. Another few minutes...

BullhORn: All right, come out with your hands UP!

Al: Must be Security. Late as usual. (Chuckles)

Paul: What are you going to do if we don't (laughs)

(They turn around giggling... into 40 UZI sub-machineguns, a Howitzer, and an infantry with the word "SECURITY" on their blazing red shirts.)

In unison: THIS!!!!

(They are riddled by gunfire. There are no witnesses, but the Tech has a new office the next day. Nobody notices, but Gary starts serving mORe fish. The takeover continues...)

DON'T LET THIS HAPPEN! It's BAD! Bother someone in charge TODAY!

[Don't panic, our eye-dyed flak jackets saved us. They only shot us in the feet... -eds]

[though they almost edited me out -tomyl]

I guess I ought to write about House events now, so...

There was a Cannes party. As far as I know, there were no casualties. A remarkably low-key, not-very drunken ORgy. Very un-BlackORlike, but quite respectable.

The Athletic team is losing most of its games. (big surprise there, eh?) But it's all Mike's fault for breaking his little finger. We could've been... a Contendor!

I like the library speakORs, Erik. Very nice.

Purity tests are out, and I finally took one. My score of 71 is 1/10th the Pope's score, so I guess I'm one tenth the man he is. (Or is that 10 times the man he is? Hmhmhmhm...)

Best of all, Mission: Impossible (yes, M.I.) is back... Sundays at 8 on ABC! Yet another reason to delay that FUCK-ING 95 homework!

Ending this long after the page division markOR (except that the EditORs probably cut the whole first bit out)...

-Tuesday night but Fuck the 106!

**Dabney:** Today's inside world feature is the care and breeding of playpens. This has been a topic of great concern here at Dabney. Since the technique of breeding playpens has only recently been uncovered, I shall detail some of the process here.

In all appearances, the start of the breeding program involves two ordinary couches placed facing each other. This is a perfectly fine and innocent thing. What causes the playpen to breed has been only recently uncovered. It seems that to make a playpen breed, purity points have to be lost in one. This somehow eventually causes said loser of points to turn into what is known as an "Old Darb". What happens then is not very clear, but eventually, a certain RA Pickup truck gets borrowed, and a brand new old couch soon appears in our courtyard, ready to be face to face with another and called Playpen. I estimate that if we keep up the current rate of playpen production, our courtyard shall be completely filled in ten years.

Most recently I heard of an incident between Nancy Carlton and a few Darbs reclining on one of the old couches. The relevant quote from Nancy was something like: "If you let me throw away that couch, I'll buy as many of the blue couches as you want." I say we take her up on this. [When hell freezes over - PJS]

Last Saturday was the frosh bonfire. Much fun was had, and most frosh survived (unfortunately...) Some complained of thermal expansion devices blowing shrapnel in their general direction, but it is doubtful if it was much of a threat. Pat White's dancing was appreciated by all.

One final and more purposeful note: Don't buy a waterbed if you don't want to be called a fascist pig.

News from DabniCorp:

It has been noted by financial analysts the world over that a disturbing redistribution of resources within DabniCorp has been taking place. They predict that DabniCorp will soon attempt a takeover of both RJR Nabisco and Philip Morris. DabniCorp spokesmen said, "they waste so much rolling paper on tobacco" and "we intend to have a total monopoly on world food, energy and pharmaceutical production by the year 2015". Exxon, Dow and Dupont have been eyeing DabniCorp with suspicion since this announcement.

DabniCorp Educational Systems has recently sponsored a grant for the study of religions and cults unique to Caltech. Cults studied include Feynmanism, Dimetrodonism, the Universal Church of Pantheist-Buddhism, the Church of the Holy Beverage (Orthodox and Reformed), the Cult of the Barbarian Bitches of GOR, the Church of the Six-Pack, Chipmunk worship (a.k.a. the Reformed Church of Neumann-Turing, Gillespie Synod) and Neo-Zionist Judaism (New York is the ancestral home of the Jews, according to them). The study will most likely be used for the creation of a synthesis religion to secure DabniCorp's control of the Tech populace.

DabniCorp Bad Joke o' the Week:

Q: Why is there famine in northeastern Africa?

A: "G" offered them the food contract, but they refused.

- Triplet

**Fleming:** Dumbwaiter has been bitching about the Inside World; maybe this new and improved version will make him happy (or at least make him shut the fuck up!)

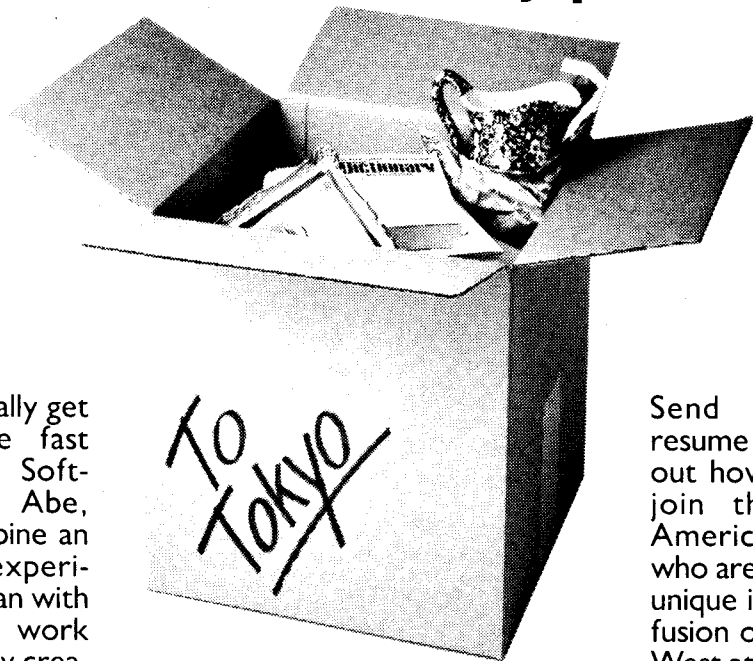
The JD Treasure Hunt went off pretty smoothly, even though Pinballs and company almost forgot to hide the JD (of course, it was a Frosh who reminded them). Saturday is the big Halloween bash; don't just be there - FUCKING BE THERE!

And now, the new and improved top-ten list:

- Top Ten Fleming Quotes
- 10) "I'm wearing RED underwear. Wanna see?" - Squeegie to an innocent young Frosh
- 9) "Do you really think there's a lot of chauvinism in Fleming House?" - Donut Poker
- 8) "A wet Squeegie is a happy Squeegie." - The Boy Wonder
- 7) "It's COLD!" - Spasm, getting wet
- 6) "No touchy-touchy" - The Sex Slinky to no one in particular
- 5) "Bill is a simple machine." - The Joker

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from page 7

Unlike the first four games, the final game seesawed back and forth, with neither team playing particularly well or particularly poorly. With Loma Linda serving for game point at 14-13, it initially appeared they had won when a Caltech spike went out of bounds. However, both teams had touched

the net, and the referees ruled that Loma Linda had netted *first*, making it side out. Junior Carol Choy then served three straight to win the game for Caltech, 16-14.

**Barstow**

Last Saturday, Caltech faced Barstow College at home. After Wednesday's draining match, the Caltech women initially looked

sluggish on the court and were not playing up to par.

However, Barstow proved to be an easy opponent, and Caltech soon perked up to the challenge of trying to run some new offensive plays off the easy serves of their opponent. A highlight of the match, which Caltech won in three straight games, was successfully

running a "one" in the middle with graduate student Christine Wilson putting away the kill.

**Caltech's Team**

Caltech's volleyball team has benefited this year from having a roster with substantial depth. The consistent play and frequent stuffs of middle blockers Courtney Smith (ST), Hsiaolan Hsu (GR), and

Chris Wilson have been pivotal in this season's victories. Power hitters include grad students Julianne Moses and Lorraine Hwang, seniors Karen Oegema and Betsy Andrews, and staff member Carol Mayeda. Lefty Carol Mullenax (SR) contributes to the off-hand hitting, and Carol Choy (JR) plays

continued on page 10



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sports

# Top League Teams Outrun Beavers

by Scott Kister

Last week, the Tigers, Stags, and Sagehens outran the Beavers on Caltech's home course. No, Caltech's course is not a wildlife preserve. For those of you not up on SCIAC college nicknames, the Occidental Tigers, Claremont Mudd-Scripps Stags, and Pomona-Pitzer Sagehens are the conference's top three teams in cross-country.

Since the conference champion is determined by this meet and tomorrow's championship meet, the teams were all business. In fact, Claremont made the race interesting by having their slow runners race in front and not let Occidental or Pomona-Pitzer runners pass them.

The strategy did not work against Occidental. Both the Oxy men's and women's team easily won. Claremont was second, Pomona-Pitzer third, and Caltech fourth in both men's and women's competition.

Most of Caltech's runners improved their time from the first home meet of the year, three weeks ago; but other than Jerri Martin, no Caltech individual placed in the top nineteen.

### The Women

Martin had beaten every runner in the conference she had faced. However, this was her first race against Occidental and Pomona-Pitzer. For most of the 3.2 mile race, she ran with the lead pack. With about a half mile to go, Martin, three women from Oxy, and one from Pomona broke away.

Martin beat the Pomona runner, but the three Oxy runners finished ahead of her. Martin's time on the course was 20:06, just fourteen seconds behind first place.

Margi Pollack ran her best race of the season to finish in 23rd place. Her time of 22:33 is 45 seconds faster than her time at the first home meet. Bibi Jentoft-Nilsen was 27th in 23:28. Golda Bernstein finished in 23:55.

Freshman Emmeline Naranjo improved by over 90 seconds to 24:58. Liz Warner finished in 25:20, two minutes faster than before. Mary Rowe finished in a time of 26:32.

Also finishing were Christina Garden, Betina Pavri, Teri Englehard, Maria Toronto, Ami Choksi, Dee Morrison, Cynthia Wittman, and Carmen Shepard.

### The Men

Sophomore Scott Kister ran his best collegiate time ever to finish in 20th place. His time of 29:49 on the 5.2 mile course was over 90 seconds better than his previous best

on the course. Dan Flees finished in 24th place in 30:10. Chris Campo improved by a minute to 30:57, his best time ever on the course.

Freshman Mike Mahon finished in 32:21. Ed Naranjo ran in a time of 33:10. Jeff Willis, who joined the team in the middle of the season, moved into the top seven with a time of 33:31. John Raguin, back from an injury, cracked the top seven for his first time since at Caltech, finishing in 33:48.

Also finishing were Andy Crews, Ray Hu, Paul Socolow, Derek Slye, Kurt Storm, Chris Goddard, John Bowers, Eric Stout, Mike Ida, Delwyn Gilmore, Andre Ohanissian, Mark Land, Neil Brandt, Todd Kaplan, Matt Fetterman, and Dave Kim.

Tomorrow is the SCIAC championship meet at Castaic Lake. The women's team can place fourth out of seven in the conference. Jerri Martin should finish all-conference, and will have another chance to race against Oxy. The men's team is currently in fifth place, but they can tie Redlands for fourth by beating them.



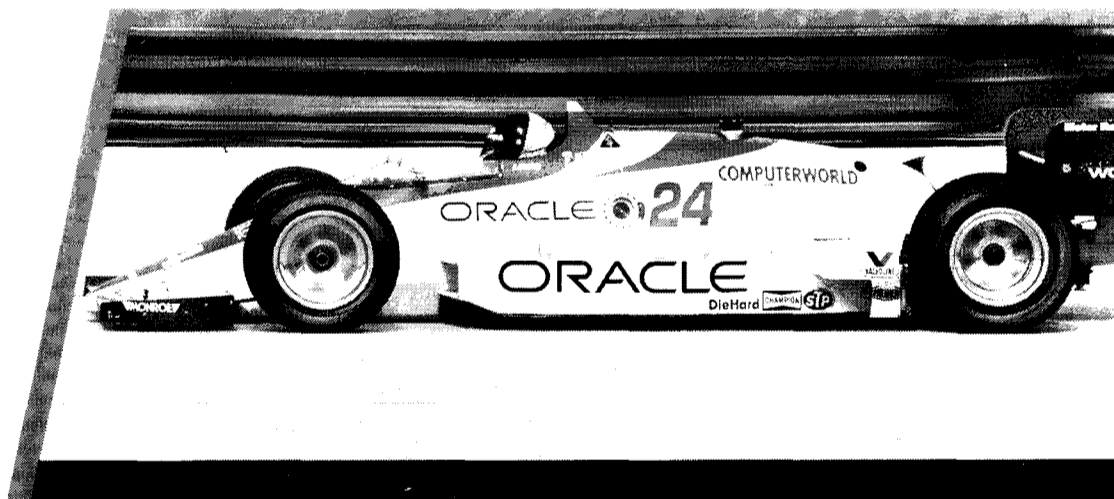
Freshman Jerri Martin runs with the lead pack for most of last week's meet. Martin finished fourth, behind three Occidental runners. Both Caltech teams were defeated by Oxy, Claremont, and Pomona-Pitzer. Photo by Stephen Kelley.

# The Fast Lane Is For Winners



Photo by Scott Kister

Freshman Dan Flees uses good form on Caltech's home course. Flees finished 24th place, second for Caltech.



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sports

from page 8  
back row defense. Setting duties rotate among Linda Rowan (GR), Lynn Hildemann (GR), and Carol Mayeda, with freshman Julianne Trout looking promising as a set-

ter for next year.

The volleyball team is coached for the fourth year by Laurianne Williams, with Rob Nickells volunteering time as assistant coach. The next home game is on

Halloween versus Loma Linda, this coming Monday at 7:30 pm. The Caltech team will wear "special" attire for this occasion, and it promises to be another close game. Come see us play!!



Photo by Scott Kister

Bibi Jentoft-Nilsen passes a Claremont runner. Bibi was 27th overall, and third for Caltech.

WEEKLY SPORTS CALENDAR

| Day  | Date  | Time    | Sport              | Opponent                    | Location               |
|------|-------|---------|--------------------|-----------------------------|------------------------|
| Sat. | 10-29 | 9:30AM  | Cross Country      | SCIAC Championships         | Oxy, Castaic Lake      |
| Sat. | 10-29 | 10:00AM | Soccer             | Redlands                    | Caltech                |
| Sat. | 10-29 | 11:00AM | Women's Volleyball | Redlands JV                 | Redlands               |
| Sat. | 10-29 | 11:00AM | Water Polo         | Pomona-Pitzer               | Pomona-Pitzer          |
| Sat. | 10-29 | 12 noon | Fencing            | UCLA & UCSB                 | Caltech                |
| Sat. | 10-29 | 2:00PM  | Football           | Valley All Star Eagles      | Mojave High School     |
| Sat. | 10-29 | All Day | Wrestling          | Cerritos College Tournament | Cerritos College       |
| Mon. | 10-31 | 7:30PM  | Women's Volleyball | Loma Linda University       | Caltech                |
| Wed. | 11-2  | 2:30PM  | Soccer             | Claremont-Mudd              | Claremont              |
| Fri. | 11-4  | 12 noon | Water Polo         | SCIAC Final Round           | Caltech                |
| Sat. | 11-5  | 8:00AM  | Water Polo         | SCIAC Final Round           | Claremont-Mudd         |
| Sat. | 11-5  | 10:00AM | Soccer             | Whittier                    | Whittier               |
| Sat. | 11-5  | 11:00AM | Women's Volleyball | Whittier Alumni             | Whittier               |
| Sat. | 11-5  | 1:00PM  | Fencing            | CSLB & Cal State Fullerton  | Cal State Fullerton    |
| Sat. | 11-5  | 1:30PM  | Football           | Cal Poly Pomona             | Caltech                |
| Sun. | 11-6  | 12 noon | Water Polo         | SCIAC Final Round           | Claremont-Mudd         |
| Sun. | 11-6  | 11:00PM | Ice Hockey         | CSUN #2                     | Pickwick Ice (Burbank) |

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Campaign Statement

from page 2  
95, and DOING BETTER THEN YOU ARE. It's clear that we need to teach these frosh some RESPECT for us God-Like Seniors. WHERE'S MY BEER DAMMIT!

And the rest of them, the Sophomores and Juniors, they're just OLD FROSH. Here we are, donating our valuable senior time and effort to train them so that one day, they too can become seniors, and they refuse to believe everything we tell them. IMAGINE! If I'm elected Senior Class President, there will be two kinds of Frosh: Considerate, slave frosh; and DEAD FROSH.

It's time we had a senior class president who will keep the UNDERclassmen in line (Hell, it's time we had a senior class president) Vote for Pierce Wetter for Senior Class President.

By the way frosh: DITCH DAY IS TOMORROW!

P.S. I'll also get a decent commencement speaker if last years Junior class president hasn't done so already.

Natural History 75 Years Old

On Sunday, November 6, 1988, the Natural History Museum of Los Angeles County officially celebrates its 75th anniversary by offering free admission for everyone to visit the exhibits and programs of the west's largest natural history museum.

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# what goes on page eleven

## GRE, LSAT, GMAT Workshops

The Bobrow Test Preparation Services are running workshops to prepare students for the GRE, LSAT and GMAT exams.

The GRE workshops for December 10th exam date are on Nov. 5, 12, 19 and Dec. 3, Saturdays 9 am to 1 pm. The February 4th exam workshops will be Jan. 7, 14, 21 and 28, Saturdays 9 am to 1 pm.

The LSAT workshops for December 3rd exam date will be Nov. 6, 13 and 20, Sundays 9 am to 3:30 pm. The February 11th exam workshops will be Jan. 22 and 25, and Feb. 5, Sundays 9 am to 3:30 pm.

The GMAT workshops for the January 28th exam will be Jan. 7, 14 and 21, Saturdays, 9 am to 3:30 pm.

For information on cost and location of the workshops, come to SAC 64 or 38.

## Be A Part Of iT

The *Big T*, Caltech's yearbook, needs students to help do layout, take photographs, etc. If you want to make your yearbook better than last year's, come to the organizational meeting on Monday, October 31st at 8 pm in Rm. 27, SAC. If you cannot make it to the meeting, but would still like to be a part of iT, contact one of the *Big T* editors listed below at x2183: Alecia Chen, Garrett Choi, Curt Hagenlocher, Shyh-Chyan Huang.

## Gay/Lesbian Discussion Group

The Gay and Lesbian Discussion Group meets the first and third Wednesday of each month. The next meeting will be held on Wednesday, November 2, in Rm. 26, SAC. Refreshments will be served. For further information please contact Bruce Kahl, x6393.

## Used Book Exchange

Come in and browse! The Caltech Y has lots of new-quality books at affordable prices. Room 218, Winnett Student Center.

## Bridge Tournament

The Caltech Duplicate Bridge Club will not meet on Monday, October 31. In place of our regularly scheduled game, we will be holding the first round of the North American Collegiate Bridge Championship at 7:00 on Tuesday, November 1, in the Winnett Student Center.

This tournament is run as a par contest. The hands are arranged to pose specific problems in the bidding and in the play. Players are awarded points based on how close they came to bidding the optimal contract, and then are required to play the hand in this contract. The play of the hand will present some problems for either the declarer or the defenders, with additional points being awarded for the correct plays.

This tournament is free, and all bridge players are encouraged to join in, regardless of skill level. However, only full-time students are eligible to advance to the next round. For more information, contact Jeff Goldsmith at (818) 397-7555.

## Free AIDS Speakers Available

At no charge, members of the American Red Cross AIDS Speakers Bureau will come to speak to groups of six people or more and present the facts about Acquired Immune Deficiency Syndrome - AIDS.

The presentations stress the methods of transmission and prevention of the disease, and include a video as well as a question and answer period. For information, please call the Pasadena chapter of the American Red Cross at (818) 799-0841.

## Natural History Volunteers

The Natural History Museum of Los Angeles County is seeking people interested in making commitments as volunteers for the fall. Applications are available now for fall classes of the Natural History Museum's Docent Roundtable and Museum Service Council.

After training, Docents lead school tours, assist curators and host museum openings. Service Council members staff the museum's information/membership desk, give administrative support to various museum departments and help with special events and public relations.

Enthusiasm, a sense of commitment and a desire to be part of this dynamic and rapidly-expanding museum are the main requirements for volunteers. Both weekday and weekend opportunities are available.

Contact Isabel Rosenbaum, Volunteer Coordinator for the Natural History Museum of Los Angeles County, at (213) 744-3341.

## Women's Trip To Scandinavia

San Jose State University is sponsoring a travel program to Scandinavia in June and July, 1989, focusing on women's issues, including equality, government, representation, sports, the arts, academia, and the women's movement. There will also be seminars on international networking, women's organizations, and the history of women in each country visited, as well as a chance to meet local feminists. The tour, led by Dr. Margaret (Meg) Bowman, noted feminist author and a member of the sociology department at SJSU, departs the U.S. on June 27, and will include Norway, Sweden, Denmark, and Holland, returning July 15. An optional extension includes a week in London. For further information, write: Travel Programs, Office of Continuing Education, San Jose State University, San Jose, CA 95192-0135.

## Y Book Exchange

Bring your used, unwanted textbooks to the Y. What we do is: we take them, display them on our bookshelves, and sell them to the poor suckers who will use them in the future. They get a good deal on textbooks, you get some of your money back! Let's band together to beat high textbook prices! They Y also has ring and report binders, and novels new and old.

## Winnett Center Rooms

The Student Activities Center is now overseeing the scheduling of Winnett Lounge and Winnett's Clubroom 1. If you'd like to reserve either of these rooms (or a room in the SAC) please stop by the SAC (afternoons are best)—Nancy is available M,T,Th,F 1:30-3 pm, and Milly is available M-F 1-5 pm or call x2935.

## French Dramas

Tonight in Beckman Auditorium, the Comedie Francaise du Theatre National de L'Odeon presents Diderto's "Madame de la Carriere" and Balzac's "Une Passion Dans le Desert." The performance is entirely in French. CIT student ticket prices: \$8.75-7.50-6.25. CIT student rush tickets at \$6.00 each go on sale the day of the show.

## Co-Arthur C. Clarke Speaks!

S.P.E.C.T.R.E., the Caltech Science Fiction Club, presents, not Arthur C. Clarke, but the next best thing, Gentry Lee, co-author with Arthur on their recent science fiction novel, *Cradle*. He will be speaking on Wednesday, November 2nd at 8 pm in 24 Beckman. The talk will be on writing science fiction and working with Clarke. Everyone is invited, and if you have read *Cradle*, or will read it before the talk, I especially urge you to come, since Gentry would like feedback on the book. Gentry Lee is currently working with Clarke on the sequel to *Rendezvous with Rama*, and he has a real job at JPL, where he most recently has been Chief Engineer of Project Galileo.

## Pianists Needed

We want you... to play piano for *Bye Bye Birdie* rehearsals! The annual Caltech/JPL musical needs two able rehearsal pianists for 1-2 nights per week during second term. You should be able to sight-read fairly well and have a fair bit of patience. *There is pay*. If you're interested an would like to look at the score, please contact Roberta at x2182. Rehearsals start Jan. 4, 1989.

## Get Ready To DooDah!

The twelfth occasional Pasadena Doo Dah Parade has been scheduled for Sunday, November 27, 1988 from noon to 2:00 pm. Rain or shine! We have entry forms, mail order forms for T-shirts, caps and pins. If you're interested in participating in the parade or would like more information, come to room 64 in the Student Activities Center.

## Need A Club Mailbox?

If your club or student organization does not have a mailbox on campus, and you would like to have one, see Nancy Matthews or Milly Pena, at the Student Activities Center, 1:30-3:00 pm, Monday-Friday.

## Free Coupon Book!

This year the Student Activities Center, in coordination with local store owners, has put together a coupon book for all undergraduate and graduate students. The coupon book gives discounts and buy-one-get-one-free items at local delis, restaurants and other establishments of interest to students. Come by the Student Activities Center, Mon.-Fri. 1:30-3:00 pm and pick up your coupon book from Nancy Matthews or Milly Pena, Room 64, SAC.

## Oh No, Another Totem!!!

Attention writers, poets, and artists! The second *Totem* in as many years will be coming out this year, in the spring. Within the *Totem* will be a complete and diverse collection of Teachers' expressed wisdom and imagination. If you want to see your creative efforts in print, send in those stories and drawings. Address works to mail code 116-58. For additional info contact Sam Dinkin (1-59 or x3828), or Erik Russell (Annex #5, 1-59, x6188). Also available are extra copies of previous issues of the *Totem*.

## Interviews Are Coming!

Now is the time to do something about getting a job after graduation. On-campus interviewing for B.S. and M.S. students will begin Monday, October 31. The first sign ups for interviews went up on Monday. If you haven't turned in your recruiting questionnaire to get yourself put on the CDC mailing list for receiving recruiting schedules and other information, pick one up in the CDC office.

Find out about the numerous new companies coming to recruit on campus. Visit our company library to find out more information.

The B.S./M.S. Resume Book will be sent out to employers the beginning of December. Be sure to be included and take advantage of this wonderful opportunity to advertise yourself. Stop by to have a counselor go over your resume with you and answer any questions. The deadline for submission of your *ONE PAGE* resume is November 4.

Come in and talk to us about resume preparation, career counseling, interviewing—anything at all. The Career Development Center is located in 08 Parsons-Gates, or call x6361.

## NSF Graduate Fellowships

The NSF Graduate Fellowship Applications have finally arrived. Pick up your copy at the Career Development Center, 08 Parsons-Gates. Deadline for entering the competition is November 14, 1988.

## Japanese Film Fest!

Free films! 2 films will be shown on Japanese music and dance—"Music of Modern Japan" and "Kabuki, Noh, Bunraku." Each film is about 30 min. long. When: Oct. 31, 1 pm. Where: 19 Baxter. Questions: Prof. Amy Catlin, x3614.

## REAL War of the Worlds

For those of you already tired of the TV series, the ORIGINAL radio broadcast of "The War of the Worlds" will be repeated on Sunday, October 30 at 9 pm and the following 2 am on KNX AM (1070). This is the 50th anniversary of this Orson Welles classic, so catch it and get in a good mood for Halloween.

## Pasadena Folkdance Co-Op

This group meets on Friday evenings at Throop Memorial Unitarian Church, and includes lessons in beginning and intermediate folkdancing. Time is 7:45 pm. Location: Los Robles and Del Mar. A donation is requested, and soft-soled shoes are required.

## Scandinavian Scholarships

The American Scandinavian Foundation of Los Angeles (ASFLA) is offering 6 scholarships for 1988 to upper and graduate students with demonstrated interest in Scandinavia. Applicants must have strong academic qualifications and be majoring in business, arts, science, journalism, linguistics or music. The deadline for applications is Nov. 15. To request an application, write (or call) Jane Sandler, 217 N. Irving Blvd., Los Angeles, CA 90004. (213) 463-5394.

## Clete Roberts Memorial \$\$\$

Clete Roberts, veteran broadcast journalist who covered battlefield stories from World War II to Vietnam and who reported in Southern California television and radio for more than half a century, is honored with two \$1,000 APTRA scholarships in his memory. Recipients must be planning a career in broadcast journalism. For more information contact: Rachel Ambrose, The Associated Press, 1111 S. Hill Street, Los Angeles, CA 90015.

## Big 10 Graduate Fellowships

The Committee on Institutional Cooperation (the athletic Big 10 plus the U. of Chicago) is offering fellowships designed to increase the representation of American Indians, Black Americans, Mexican-Americans and Puerto Ricans among Ph.D. recipients in the basic social science disciplines. Each award provides full tuition for the academic year plus an annual stipend of \$9,000. Interested minority applicants should contact: CIC Minorities Fellowships Program, Kirkwood Hall 111, Indiana University, Bloomington Indiana 47405. The application deadline is January 6, 1989, so write as soon as possible.

## Red Cross Disaster Training

Red Cross Disaster Services volunteers are trained and ready to respond to assist the victims of any man-made or natural disaster every day of the year. Emergency food, shelter, medical attention, and other assistance is provided to disaster victims in order that they regain their self-sufficiency as quickly as possible.

Citizens interested in learning how to be of assistance to their friends and neighbors may become a volunteer for American Red Cross and sing up for free Disaster Services training courses and workshops on various facets of disaster work.

These Disaster Services courses are conducted at several Red Cross locations. "Introduction to Disaster Services" is a required prerequisite course to the diverse disaster classes. As an introductory class, "Intro" explains the Red Cross role in emergencies, before, during and after a disaster. Other courses offered include Emergency Assistance to Families, Canteen Vehicle Workshop, Damage Assessment, Mass Care, Shelter Management, Records and Reports, Communications Workshop.

Call the Pasadena Chapter at (818) 799-0841 for more information.

## ANNOUNCEMENT FORMS AVAILABLE FOR 1988-89

Request a supply of new forms by calling x6153, or just stop by the *Tech* office (40 SAC) and pick some up. (You can still use last year's form until you run out—just change the issue dates.)

**ACADEMY BARBER SHOP**  
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Put your name on the line for human rights.

Please add my name to help support the Universal Declaration of Human Rights.

NAME \_\_\_\_\_ ADDRESS \_\_\_\_\_  
Please return this appeal by Oct. 31, 1988 to:

**HUMAN RIGHTS NOW! Appeal**  
AIUSA West/Los Angeles  
3407 West Sixth Street, Suite 704  
Los Angeles, CA 90020

Please send me more information about Amnesty International, the worldwide human rights organization.

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If you are unable to schedule an interview, ARETÉ ASSOCIATES would welcome your inquiry by mail. For more details on the career opportunities at ARETÉ, write:

**ARETÉ ASSOCIATES**  
Attn: Human Resources Manager  
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Sherman Oaks, CA. 91403

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# what goes on the back page

Announcements for *What Goes On* should be submitted on an announcement form available in the SAC copy/mail room (Room 37) or on a plain piece of paper. Please indicate the date(s) you want the announcement to run. Send announcements to 40-58, or put them under the door of Room 40 of the SAC. Announcements must be received by the Tuesday prior to publication.

### Bookbuilders West \$\$

Bookbuilders West is offering \$1,000 scholarships to students in their junior year who are interested in pursuing a career in the book publishing industry. Each scholarship recipient will also be eligible for participation in a summer internship program. The deadline for application is October 31, 1988. For further information, please contact the Financial Aid Office, 515 S. Wilson.

### Amelia Earhart Memorial \$\$

The Zonta International Foundation is offering grants of \$6,000 each to qualified women for graduate study in aerospace-related science or engineering in memory of Amelia Earhart. The deadline for application is December 31, 1988. For further information, please contact the Financial Aid Office, 515 W. Wilson.

### Engineering \$\$

The National Society of Professional Engineers is offering scholarships to undergraduate and transfer students who are pursuing a degree in engineering. The deadline for application is December 1, 1988. For further information please contact the Financial Aid Office, 515 S. Wilson.

### Electron Microscopy \$\$

The EMSA Council (Electron Microscopy Society of America) is offering an undergraduate scholarship program to further the educational and research potential in students intent in pursuing electron microscopy as a career. The applicant must be a U.S. citizen or resident alien and a full time undergraduate. The application deadline is Nov. 15. For further information please contact:

Dr. Robert Price  
Bio-Architectonics Center  
Case Western Reserve University  
2119 Abington Rd.  
Cleveland, OH 44106  
or contact the Financial Aid Office, 515 S. Wilson.

### More Engineering \$\$

Equal Opportunities Publications, Inc. is offering two non-renewable \$500 scholarships to honor outstanding women, minority, or handicapped students who are pursuing a career in Engineering. For further information please contact the Financial Aid Office, 515 S. Wilson.

### Goddard Memorial Scholarship

The National Space Club is awarding a \$7,500 scholarship for the academic year 89-90 in the memory of Dr. Robert H. Goddard. The 1989 award winner will also be introduced to the nation's leaders in science, government and industry. The applicant must be a U.S. citizen, in at least the junior year, and have the intention of pursuing undergraduate or graduate studies in science or engineering during the interval of the scholarship. The deadline for applications is Jan. 6. For further information please contact the Financial Aid Office, 515 S. Wilson.

### National Roofing \$\$\$

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

### Arizona Honors Academy

The Arizona Honors Academy is offering a three-week seminar for exceptional undergraduates this summer. This is an opportunity for undergraduates to discuss important world issues with writers, sociologists, National Security Officers, historians, physicists, and Arms Negotiators. The deadline for application is January 15, 1989. For more information, please see Jacqueline in the Financial Aid Office, 515 S. Wilson.

### SAMPE \$\$\$

The Society for the Advancement of Material and Process Engineering is providing 27-\$1000 awards in international competition in April. Students in their freshman, sophomore or junior year may apply. The applicant must be recommended by the department head or scholastic advisor. The deadline for application is Feb. 1, 1989. For further information, contact the Financial Aid Office, 515 S. Wilson.

### The MOSH Invites You

This year INTERHOUSE is to be held on the evening of Saturday, November 12. This festival is one of the major annual events in the undergraduate student houses. Each house selects a theme, decorates its lounge and courtyard appropriately and provides entertainment. The entire Caltech community is welcome to join in the fun which usually begins about 8:30 pm. I would like to urge all of you to come and share in the celebrations.

### Halloween Folkdance?!

The Caltech Folkdancers will throw their annual Halloween Party on Tuesday, Nov. 1 in Dabney Hall Lounge from 9-11:55 pm. The party will be preceded by teaching of dances from the Baltic nations. The Yugo-Gypsy Band will be playing. Costumes are encouraged. A pot luck of goodies is also part of the fun, with Pinback's ovens donating a few chocolate snacks. Come join the fun!

### SAMPE Call For Papers

The Society for the Advancement of Material and Process Engineering (SAMPE) is now accepting abstracts for papers to be presented at next year's Third International Electronics Materials and Processes Conference. "Electronics Materials for the 90's and Beyond" is the theme of next year's conference.

Topics being solicited include engineering, low-dielectric materials, EMI/ESD shielding, electronics materials, conductive materials, electronics packaging, photonics, printed wire board materials, manufacturing process controls, surface-mount technology, advanced plastics and polymers, fabrication of electronics devices, microelectronics materials, electronics adhesives, coatings and encapsulations, and electronics ceramics.

To be eligible, two copies of 100 to 250-word abstracts should be sent to Program Chairman Fredrick F. Saremi, Keen Corporation, 9433 Hyssop Drive, Rancho Cucamonga, CA 91730, by October 14, 1988. All entries must include author's name, affiliation, business address and telephone number. Only unpublished work will be considered. Final papers must be completed and submitted by March 15, 1989. Provisions will be made for material subject to FEDD and other contract-limiting requirements.

For additional information about the Third International Electronics Conference, and SAMPE, please contact Marge Smith, business director, at P.O. Box 2459, Covina, CA 91722, or phone her at (818) 331-0616.

### GEM Fellowships

The National Consortium for Graduate Degrees for Minorities in Engineering, Inc. (GEM) is accepting applications for its 1989 Fellowship competition which will provide 150 awards to minority students in engineering.

Designed for members of ethnic groups that are underrepresented in engineering, the program's goal is to increase the pool of minority students who receive master's degrees annually in engineering. At the time of application, the *minimum* academic requirement for the student is enrollment in the junior year of undergraduate study in one of the engineering disciplines. Those presently in their senior year or recently graduated are also eligible.

Each fellowship pays tuition, fees and a stipend of \$6,000 per graduate academic year, as well as provides summer employment with a sponsoring Member Employer. The total value of the award is anywhere between \$20,000 and \$40,000 and depends upon which Member University the Fellow elects to attend.

Applications must be received by December 1, 1988. Awards will be announced February 1, 1989. Information and applications may be obtained from:

GEM  
P.O. Box 537  
Notre Dame, IN 46556

### AMAN Ensemble

The AMAN folkloric company performs music and dance, celebrating the world's diverse peoples and cultures. CIT student ticket prices: \$10.00-8.75-7.50. CIT student rush tickets at \$6.00 each go on sale the day of the show.

For information on this and other Caltech Public Events, call the Ticket Office at x4652.

### International Student \$\$

The seventh annual International Student Scholarship Competition—a nationwide essay competition for international students studying in the U.S.—is now underway. First prize is \$1,500 to be used for academic or professional advancement. International Underwriters/Brokers, Inc., also will award \$350 to the International Student office of the first-place winner.

Deadline for the competition is December 1, 1988. International students interested in entering must submit an essay of no more than 1,500 words on the topic: "Important cross cultural clues are often found in humor. Compare humor in your country with humor as you find it in America. Include examples of humorous situations resulting from cross-cultural misunderstandings, either in the U.S. or on your first visit back to your home country."

Additional scholarships will be awarded for second place (\$1,000), third place (\$500) and five honorable mentions (\$100 each). The International Student Scholarship Competition is open to all full-time foreign students enrolled in a prescribed degree- or certificate-granting program at an accredited high school, junior college, college or university with in the U.S. Also eligible are students enrolled in an English training program who plan to pursue higher education in the U.S.

For additional information, rules and entry forms, write: Essay Competition Coordinator; DSD Communications, Ltd.; 10805 Parkridge Boulevard, Suite 240, Reston, VA 22091.

### Enigma Machine

The National Security Agency will present a talk on the "Solution of an Enigma Machine," plus discuss general employment opportunities at NSA for mathematicians on Thursday, November 3 at 3 pm in 159 Sloan. Dr. Roman Kaluzniak from NSA will be the speaker. If you have any questions, contact the Career Development Center at 08 Parsons-Gates, or call x6361.

### BS/MS Resume Book

Don't Forget!!! The 1988-89 B.S./M.S. Resume Book will be published by the Career Development Center in mid-November. To be included, we must receive your ONE page resume by November 4. This resume book is sent to employers and is a great way to advertise yourself. Bring your resume to the CDDC, 08 Parsons-Gates and drop it off with Carol. P.S. If you would like one of our counselors to review your resume with you, the CDC will have scheduled "drop-in" times on Friday, October 28 and Monday, October 31 from 1-5 pm.

### Oracular Opportunities

Caltech alums Adam Slovik and Ed Zanelli will be on campus today to talk about employment opportunities with Oracle Corporation. They are having an informal discussion at 3 pm in room 26 of the SAC. Oracle Corporation will be interviewing on campus on Thursday, November 3.

### "School For Wives"

TACIT presents Moliere's "The School For Wives" in Ramo Auditorium tonight at 8 pm, Saturday at 8 pm, and Sunday at 2 pm. Get your tickets from the Caltech ticket office or at the door. Don't miss this classic story.

### Discount Tickets!!

Discount tickets are available for the Western Americana Show. With the discount, admission will be \$4.25. Live performances feature Guns-Swords-Knives-Militaria-mountaineers and Wells Fargo Country/Western Music Festival. The dates for these events are Nov. 4-6 and Dec. 9-11 at the Los Angeles County Fairgrounds. The discount tickets have been placed at the Orange Walk entrance to the Student Activities Center, on the bulletin board marked SAC News.

### Coffeehouse Hours Correction

The Coffeehouse hours for the academic year 1988-89 are: M-F, 8 pm to 1 am; Sat & Sun 12-2 pm, 7 pm to 1 am. Also, if you are a currently enrolled Caltech student and need a job on campus, see John Woolverton, 1-57 (the Coffeehouse head manager). We may have openings for waiters and/or managers during the term.

### New Caltech Organization

THE COMMUNITY SERVICE ASSOCIATION, a newly created Caltech organization, is having a meeting at the Y lounge on Friday November 4. A free lunch will be served. The organization is looking for people who are interested in volunteering some time to the Pasadena community as well as those who have some ideas about setting up this new club. If interested, please come to the meeting/lunch or contact George Liu x6086.

### Philharmonic Tickets

The Caltech Y has L.A. Philharmonic tickets for Friday, November 4 and Friday, November 11. \$3.00 for students, \$5.00 for faculty and staff. Go the The Y as soon as possible, upstairs in Winnett Center.

### Bagels and Workstudy

A bagel & espresso a day keeps the doctor away: The Red Door Cafe needs a counter person. We will pay your workstudy, there are great perks, and interesting people to meet. Flexible hours, afternoons and evenings. Call Craig at x4840.

### JPL Management Seminar

At noon today, Dr. Moustafa T. Chahine will speak at a Caltech Management Association Noontime Briefing at 180-101 JPL. The subject is: "How to Make JPL Better."

### Dodsworth's On Halloween

The Dodsworth Bar and Grill, on the corner of Colorado and Fair Oaks, will give a complimentary glass of wine to each (legal age) lunch or dinner customer who shows up in costume on Halloween. Best costumes at lunch and dinner will win complimentary lunch or dinner for two on a subsequent visit.

### Jack-O'Lantern 1a

The Natural History Museum of Los Angeles County is offering "Halloween Pumpkin Carving," a course for adults on Saturday, October 29 from 9 am to 3 pm. James Olson, pumpkin carver extraordinaire and the museum's head of exhibits, will demonstrate how to sculpt jack-o-lantern caricatures by creating different layers in each pumpkin. Mr. Olson has won many prizes for his caricatures of real or fictional characters. Tools provided, bring your own pumpkin. Cost: \$25 for museum members, \$30 for non-members. For more information, call (213) 744-3534.

### Day Of The Dead On Display

There is a special display of Mexican folk art associated with Dia de los Muertos (Day of the Dead) at the Folk Tree store and gallery, 217 S. Fair Oaks Ave. The Day of the Dead is celebrated on Nov. 1 and 2, and shares many decorative motifs with Halloween (skeletons, etc.). The exhibits and sale items will be available through Nov. 6.

### Learn About Speaking

The Toastmasters International District One Fall Conference will be on Saturday, November 5 from 8:30 am to 8:00 pm at the Ambassador Hotel, 3400 Wilshire Blvd. With the theme of "It's Show Time," the conference will feature educational seminars conducted by nationally recognized speakers. Topics of the seminar include "Speak Out With Confidence and Power," "Voice Image—Your Voice as Power," and "How's Your Self."

Additional features will be speech contests, live entertainment, lunch and dinner. Cost: \$65. Preregister, if you want to eat. Call Darlene or Harold Westbrook at (213) 851-0818 for more information.

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Throop Memorial Church  
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