

DuBridge Choice As Graduation Speaker Draws Mild Fire

By Kevin Drum

Dr. Lee A. DuBridge, former Caltech President who served for twenty years, has consented to be the speaker at commencement on June 10. Professor Bob Oliver, chairman of the convocations committee, commented that "I am happy—I might even go so far as to say very happy—to report that Lee DuBridge will be our commencement speaker."

However, the choice of DuBridge has incensed some members of the senior class. Senior Class President Ryn Miake, while stressing that DuBridge would be a very interesting speaker, said that the senior class had previously decided that it did not want a commencement speaker associated with Caltech, as the last several speakers have been.

"More For Parents"

Miake, who is the only student on the Convocations Committee, said that they had decided that no speaker would be better than one from inside Caltech. However, she says that Oliver told her that commencement was more for the parents than for the students, and that parents would rather hear a speaker from Caltech. "They told me that they wanted someone who would say something relevant about Caltech," she said, "and of course the first choice would be to look within the Caltech community."

"When I was told that commencement was more for the parents than for the students, I decided that my recommendations were useless," Miake and the Convocations Committee drew up a list of four possible commencement speakers, which they submitted to Provost and Acting-President Robert Christy for the final pick. The list included DuBridge; Shirley Hufstetler, a Caltech trustee and judge; California Governor Jerry Brown; and Kurt Vonnegut, noted science fiction writer.

A Matter of Principle

"It was obvious who he was going to pick, of course," said Miake, again pointing out that the senior class had no objection to DuBridge. She claims that it is simply a matter of principle.

"I think commencement is for the students," she says, disagreeing with the view held by the Convocations Committee. "We

Continued on Page Six



"I had a helluva time doing what I did," said Bill Schaefer Wednesday night when the BOD presented him with an Olive Walk Brick Award. The award was given to him in recognition of his services as Registrar, a post he left two months ago. Photo-Al Kellner

BOD, ESC Decide ASCIT-GSC Party A Success

By Kevin Drum

"I think this party has changed a lot of people's minds about ASCIT/GSC parties," said Paul Gutierrez, a member of ASCIT's Executive Social Committee (ESC), summing up the feelings of most of the rest of the ESC and the ASCIT Board of Directors. The BOD tentatively decided that the ASCIT/GSC party held last Saturday in Dabney Hall Lounge was a success and should be continued.

One of the most prominent complaints about the party was the lack of girls. "Let's face it," said ASCIT Director-at-Large Leslie Paxton, "a three to one ratio is just not good enough for a party, even if it is at Caltech." ASCIT President Bert Wells wonders if the house social chairmen are willing to use their contacts to get girls to the dance. Joe Zwass, another member of the ESC, claims that the reason for the scarcity of girls at the dance is simply that the houses were not given enough warning for it. "The houses were given at least two weeks notice," says ESC member Leila Gonzales. "I think the reason is just that the houses were not enthusiastic enough."

Zwass pointed out that he thinks that the purpose of a party is not to try to get over a one-to-one ratio but to get people together to have a good time. Gonzales disagrees. She says that the success of the party is intimately bound up with the number of girls who show up. "People want to meet girls," says

Leslie Paxton.

Although there were more girls at the party than there were at most Caltech parties, most ESC and BOD members feel that stronger efforts should be made next year, mostly by the house social chairmen. Erik Sirri of Fleming suggested that one reason that there weren't as many girls as there could have been was that last year's party was generally considered a disaster, which may have made many people (at least in Fleming he said) hesitant about bringing girls for fear of turning them off to any Caltech party. He added that nearly everyone he had talked to thought this year's party was also very poor. "It was a preconceived notion and it was also verified," he said.

Nearly the entire ESC agrees that the band, Blues Image, a Grammy award winner, was the greatest success of the party. Many felt, however, that although a great band might not make a party, a poor band would definitely break one.

Continued on Page Six

357 Letters of Acceptance

Shair Outlines Admissions Procedures

By Alan Silverstein

Little do they suspect what lies in store, the chosen few who right now stand in imminent receipt of letters of acceptance to the Institute next fall. This past week saw the annual climax of activity for the Admissions Office and the Freshman Admissions Committee, as 357 offers of acceptance and financial aid were completed and mailed to prospective freshmen. Added to the six deferrals from last year, and eighteen early admits, and coupled with an expectation percentage of 60%, this group of people (chosen from a total of 1391 candidates) should produce 229 positive responses by the Candidate's Reply Date (May 1). Hence, after a few summer dropouts, we will probably be

Committee Formed To Decide Size Of Caltech

By Henry Fuhrmann

The Ad Hoc Faculty Committee on Optimal Size of the Undergraduate Student Body has begun meeting regularly to discuss the major factors affecting undergraduate education at Caltech. In addition to considering the importance of a "small" student body, the committee will try to obtain information on what faculty resources, graduate student resources (i.e. teaching assistants), and facilities are necessary for a given-sized program.

The committee's function is not merely to update the so-called Bohnenblust Report (1972)—which resulted from the work of the last Committee on Optimal Size, and recommended fixing the size of entering classes at 220 students. Rather, the committee has been empowered to re-state the faculty's stand on undergraduate education.

Early Committee Action

As a starting point, the size, quantitatively, of the undergraduate student body has been the subject of discussion. On

April 6, the committee members were asked to answer a questionnaire and then to relate their comments at a meeting one week later. The questionnaire was designed to initiate discussion on the following: 1) the elimination of the undergraduate program, 2) proposals to keep within 20-30% of the status quo, and 3) a more dramatic increase in the number of undergraduates to, say, 3000. Most of the serious discussion has been confined to the second set of alternatives—slight to moderate increases, or decreases, in student body size.

Issues

There are many key factors to be considered here. Among these are the housing of a large number of undergraduates, the student-to-faculty ratio, and the diversity of the student body.

Right now, "The houses are jammed... there are bodies everywhere," in the words of Master of Student Houses Jim Mayer. Since students and many of the faculty have voiced strong support of the present house system and on-campus living, any

Continued on Page Seven

BOD Fills Seven Offices

The ASCIT Board of Directors began the process of naming people to appointive offices at their meeting Wednesday. The only posts filled were those for which there was only one nominee, since most interviews had not been conducted by the time of the meeting. The BOD apparently hopes to have the rest of the offices filled by next week's meeting.

The following offices were filled:

Athletic Committee—Tom McDonnell, Bert Wells, Eric Kaler.

Educational Policies Committee—Bert Wells, Tom McDonnell, Leslie Paxton, Ray Beausoleil.

Elections Chairman—Robert Chess.

Gameroom Chairman—Eric

Eichorn.

Little t Editor—Henry Fuhrmann; Little t Business Manager—Kevin Drum.

Publications Darkroom Chairman—Dave Wheeler.

Jon Fong, a freshman, is the only candidate for student darkroom chairman, but was not approved because no interview had been made. There are two candidates for next year's *Big T* editor—Dave Wheeler and Young-il Choo. There was some discussion of the quality of this year's *Big T*, edited by Choo, but no decision was made because Treasurer Mike Schwartz had not interviewed the candidates. Al Kellner is the only candidate for *Totem* editor, but no decision was made because he had not yet been interviewed.

Inside the Tech

The Yale University Insiders' Guide to the Colleges. Page 2

The track team wins its first two meets on the same day. Page 8

Engineering once again proves to be the most popular option with the freshmen. Page 7

Parry! Riposte!

The Editorial Page

College Guide

Every year the Yale *Daily News* publishes a book called the *Insiders' Guide to the Colleges*. Their reviews are read by thousands of prospective applicants. The article below, written by *Tech* editors Kevin Drum and Henry Fuhrmann, will be submitted on Monday. Read it and decide if you think it portrays an accurate picture of Caltech. There will be a special meeting from 1 to 3 p.m. in the *Tech* office on Sunday to discuss the article and decide if it is fair and objective. If you have any comments, any observations about life at Tech, come to the meeting and let us know. If you can't make it, but still want to point something out, leave a letter in the mailbox on the *Tech* office door before Sunday afternoon. Thousands of prospective applicants will get their first impression of Caltech through this article; take the time to read it, think about it, and then make some suggestions. Any help will be appreciated.

A popular saying at Caltech is that learning at Tech (as it is universally called there) is like drinking from a fire hose. This accurately reflects the basic Caltech philosophy of education: quantity is more important than quality.

The list of Caltech faculty is impressive. From Nobel Prize winners Richard Feynman, Murray Gell-Mann, and Max Delbruck to Mariner TV innovator Robert Leighton and noted Mars expert Carl Sagan, Caltech abounds with creative, top notch scholarship. Nor does this scholarship stop with the faculty: Caltech's Master of Student Houses Jim Mayer is one of the world's foremost authorities in high-implant physics. And although they often seem more concerned with their research than with their students, these high-powered researchers generally do a good job of teaching.

Although the teaching is not the best, falling short of most of the ivy league schools, Caltech is still one of the finest math/science schools in the country. Students list two things responsible for this: Caltech's small size (about 800 undergrads) and its opportunities for research. With only a moderate amount of initiative, even a freshman can become involved with a research group in almost any field. Students who do not get in-

involved in research during their years at Caltech often find that they have missed out on the best that Tech has to offer.

In addition, just the fact that Caltech has 800 of the brightest students in the country (and most of them know it) makes it a place well suited for the math/science-oriented applicant. However, those who spend a few terms at Caltech and decide that perhaps math and science are not the only things they are interested in find Caltech an impossible place to live. Historically, 30% of the entering freshman class drops out. Most of them transfer to other colleges where they still major in math or science but can also receive a more well-rounded education.

The literature that Caltech sends out to prospective applicants notwithstanding, Caltech is still not able to offer a very well balanced education. Although major efforts have been made by the Humanities Division in recent years, students at Caltech just don't react well to them. About a quarter of the classes a Caltech student takes are required to be in the Humanities Division (which includes economics and social science). However, more than three times as many students exercise their pass/fail option in the Humanities Division as in science or engineering

Continued on Page Four

P. E. Curriculum III

To the Editors:

Regarding Gary Bodie's reply to my article, I'd like for him to know that I have taken the Caltech P. E. Sailing Course. It was a lot of fun but definitely not physically strenuous. I'm sure no one else in the class worked up a sweat either.

And my impression of the Phys. Ed. department isn't only from my Tai Chi Ch'uan venture. As a matter of fact, in that sailing class I took we got the runaround. The instructor needed a megaphone in order to teach the class in a windy bay. It took weeks of requests to get a megaphone—one that didn't work.

The instructor asked us to remind Mr. Emery about the megaphone, and when I did, the response wasn't exactly friendly or helpful. And we never did get a working megaphone.

I'm very happy that you get help from the P. E. Department; however, I really did experience difficulty over there.

Actually, I became kind of sad when I read your response to my article. I was hoping that someone on the P. E. staff would write and clear up the procedure

for enlarging the P. E. curriculum if there is one, and what the actual budget constraints are. Instead I just saw you running interference for them.

Moses Ma

School Board Elections

Dear Students:

On March 8, Marge Wyatt was elected to the Pasadena School Board. Dr. Wallace Frasher and Dr. Ralph Hallman were successful in being placed in run-off races against incumbents Richard Vetterli and Henry Myers. Your help was great! Please vote for Frasher and Hallman for School Board on Tuesday, April 19.

After the polls closed on March 8, things looked grim. Our campaign workers' "Victory" party wilted as the first third of precincts counted showed the incumbents slightly ahead. Across the street at the Conference Center where the votes were being counted the auditorium was full of candidates and precinct workers and supporters; both sides were tense and subdued; ballots were being fed into a counting machine which seemed broken down about 10 p.m.

At 11:06 p.m., the results of a considerable batch of precincts were thrown on the screen: Marge Wyatt was in! A few seconds silence while all the votes of candidates opposing Vetterli and Myers were mentally added. Opposing votes were found to be well in the majority! A storm broke loose. "Hallelujah!" "We made it!" Dancing, embracing, jubilation. I looked up to see how the incumbents were taking it. They seemed to have vanished.

Voter turnout on March 8, however, was low—about 35% average. Each side knows there are more votes possible. Alarmed now the incumbents are pushing their campaigns hard. For the primary, 2/3 of contribution money to incumbents came from donations of \$50 or more, whereas opponents to the incumbents received 2/3 of their contributions in donations of less than \$50. Our votes must show that one cannot buy an election.

Let's double the number who get to the polls at Caltech on Tuesday.

Manny Delbruck

Correction

In the article "Tech Math Team Wins Putnams for Second Year in Row" (the *Tech* March 11), we incorrectly listed Dave Mathog as the highest scoring freshman with 19 points. Eugene Loh was the highest scoring freshman with 22 points, placing him very high in the competition. —Ed.

It Is Spring, Even At Tech

By Annette Smith

There is a student in my class whom one might consider a typical Techer. He is a bit shy, not particularly athletic, brilliant in physics, often gently sneering at the course work, although always prepared for class, and, I suspect, a "snake" in the privacy of his own room. The other morning he came to my office to apologize for missing class that day: he had just heard that B&G was about to give the Baxter Pond its bi-yearly (or whatever) antifungal dosage of chemicals and, faced with this emergency, he skipped the class in order to rush to the rescue of the dragonfly population. He was

Annette Smith is lecturer in French at Caltech.

carrying a three-winged dragonfly on his closed fist, falco-like, one specimen in the species that seemed to require special love and care. He talked for a while about the idiosyncrosies of the Baxter dragonflies; then about a pair of rare caterpillars he had also found in the vicinity of the pond (I forgot what made them rare, but it had something to do with the rings on their bodies), how he took them to his room and raised them for quite some time, feeding them a Very Special Yellow Flower, the source of which I promised not to reveal to anyone, especially B&G. We discussed gravely what

to do with the tadpoles while the pond was being treated. I suggested the Master's house pond as a possible refuge (Jim Mayer, please forgive me). My visitor also had with him a beautiful book on the exotic butterflies of the world and we leafed through it, quietly marveling at the gorgeous colors, wondering why that one from Brazil had asymmetrical markings when Nature seems to go for Rorschach effects in all others, and, from page to page, unable to decide which we found the most exquisite, while the three-winged dragonfly was feebly stirring on his fist, one of the remaining wings slightly folded under, another one ever so slightly broken at the end—which really made of him (or her, we could not tell even by a close examination of the dragonfly. Meanwhile in other parts of the campus, serious and important people were trying to balance the budget, appoint a new President and a new Division Chairman, replace several famous scientists, and fill a couple of vacant endowed chairs. But we weren't famous, no, I am afraid, serious nor important, except perhaps eventually to the genome evolution of a subpopulation of dragonflies with poor quality wings and a fussy diet. So, we spent a very pleasant half-hour. After all, it was spring, even at Caltech. . . .

BAMBOO VILLAGE CHINESE RESTAURANT

1772 E. Colorado Blvd. near Allen
Pasadena, Ca. 91106 Tel. (213) 449-9334

SPECIAL FOR STUDENTS

\$1.35 Daily Lunch Special

10% off on a la carte

Sunday 5-10 PM

OPEN FROM 11:00 AM to 10:00 PM

Closed Mondays

Parking in the rear. I.D. Required

THE ASCIT FRIDAY NIGHT MOVIE

Dr. Strangelove

PLUS SHORT SUBJECT "H BOMBS OVER U.S."

7:30 p.m. & 9:30 p.m.
in Baxter Lecture Hall
ADMISSION: 50¢—ASCIT members
\$1.00—anyone else

NEXT WEEK

Walking Tall

THE CALIFORNIA TECH

Volume LXXVIII Number 24
Friday, April 15, 1977

Published weekly except during examination and vacation periods by the Associated Students of the California Institute of Technology, Incorporated. The opinions expressed in all articles are strictly those of the authors and do not necessarily reflect the views of the editors or of the corporation.

Editors-in-Chief
Kevin Drum
Henry Fuhrmann
Al Kellner

Business Manager
Ken Kroll

Sports Editor
Rock Howard

Writing Staff
Dick Beatty [Food], Tom Creswell, Judy Greengard, Tom McCabe, Sandy McCorquodale, Bob Morrison, David Ritchie [Entertainment], Alan Silverstein, Brett Van Steenwyk

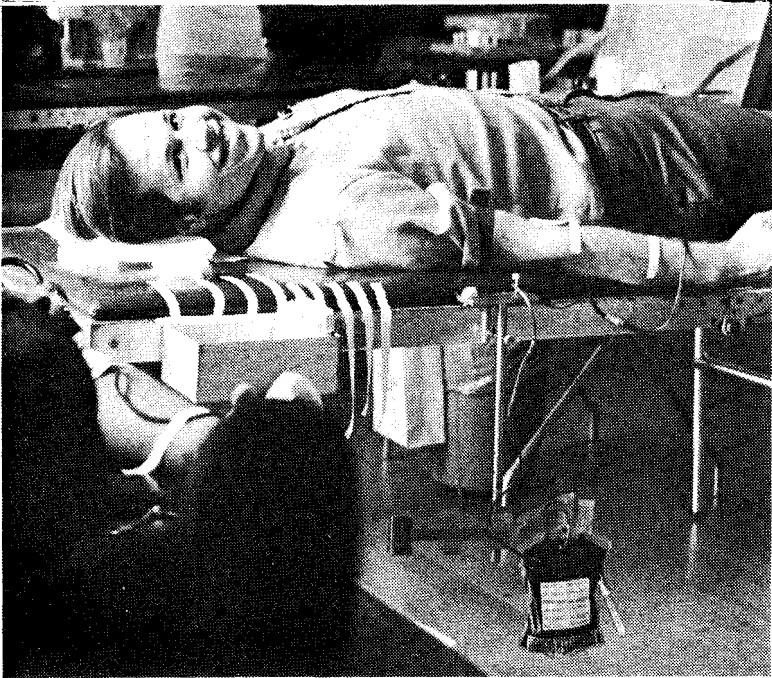
Photography Staff
Dave Wheeler [Darkroom Chairman], Ed Bielecki, Ngaiman Chau, Talso Chui, Ray Gildner, Ken Li, John Loo, Ed Rea, Tom Snyder, Fred Solomon, Jean Uwate, Chris Wheeler

Production Staff
Alan Boyar, Flora Boyer, Stan Cohn, Nick Smith

Circulation Manager
Bill Gould

The California Tech publications offices are located in Winnett Student Center (107-51), California Institute of Technology, Pasadena, CA 91125. Telephone: (213) 795-6811, Editors—ext. 2, Business Manager—ext. 2154. Printed by News-Type Service, 1506 Gardena Avenue, Glendale, CA. Second-class postage paid at Pasadena, CA.

Subscriptions
term - \$1.50
year - \$4.00
life - \$100



Come on over to Dabney Lounge if you have not already donated blood—like this fine young gentleman—anytime before 3:45 today. Remember: don't let your house down because you were too busy to roll up your sleeve. Please hurry on over—no appointment necessary.

Photo-Talso Chui

Thin Man At Cinematech

By Mike Kurilla

This week Cinematech offers two films in the area of mystery, suspense, and detective excellence. For the first time and due to the great wisdom of Cinematech, the world's most stoned detective and the world's most drunk detective are together for one night.

Of course the most stoned detective is none other than Sherlock Holmes (Basil Rathbone). Almost always strung out on cocaine, Holmes faces many dangers in "The Pearl of Death." The Borgia pearl, deadly to all its owners, is stolen while Holmes is busily showing the museum owner how terrible his alarms are by disconnecting them. Having made this blunder, Holmes sets out to find the pearl. Hidden in a small statue, there are five possibilities. But Holmes is one step behind the thief and begins to find his possibilities being murdered by having their backs broken.

Exhibiting his uncanny sense of deduction and staunch British persistence, Holmes eventually uncovers the villain as his old nemesis, Professor Moriarity. Dr. Watson (Nigel Bruce) is also

there making wrong conclusions and helping the viewers to not feel so stupid.

This pair as Holmes and Watson are extraordinary in their roles. They bring to life all the idiosyncrasies and mannerisms that Sir Arthur Conan Doyle wanted the mythical pair to have.

The second detective of the evening, back by popular demand, is none other than Nick Charles (William Powell). Along with his wife (Myrna Loy), this pair of wacky, way-out detectives find more laughs than clues and apprehend more drinks than criminals.

"Another Thin Man" is the third film of the Thin Man series which stand as classics from the late '30's, when anything made was funny. For alcohol and laughs, Nick Charles is the man to see, and his wife isn't too bad looking either.

Films are shown Saturday evening at 7:30 p.m. in Baxter Lecture Hall. Donation is \$1.00 for ASCIT and GSC, \$1.50 for Joint Chiefs of Staff other than admirals, and \$.75 for children under 14 (Techers are still \$1.00).

Bicycle Fanatics Unite

The second meeting of the Caltech Cycling Federation will be held April 19, Tuesday evening at 10 p.m. in Winnett Lounge. There will be discussion of organization, bicycle workshops, tripping, and a racing team. Interested parties should attend. For further information contact Dave Sivertsen in 56 Ricketts or Derek Davis, Maidenhead Blacker,

Travel Award

Paul Studenski graduated from Caltech in 1973 in biophysics. He was the son of Jeanette and Eugene Studenski from New York. Paul loved travel. After graduation, he and his girl friend Jean Hill traveled to Europe and then across America. In the fall, Paul had planned to move to a farm near Ithaca, and work on hemoglobin research at Cornell. On the trip to the East coast, Paul and Jena died in an auto accident.

To memorialize Paul, his parent have set up the Studenski award fund. Each year, one undergraduate is awarded \$1500 for a travel holiday. Applications were mailed to the students and are available in the Y office.

Joshua Tree National Monument

A camping trip to Joshua Tree National Monument for the weekend of April 29 to May 1 is being planned by David and Annette Smith and Max and Manny Delbruck, who would like to invite some Caltech undergraduates to join them. A group campsite at Indian Cove is reserved for Friday evening through Sunday breakfast. There may be some other faculty and grad students. Annette and Manny will cater, so you need only bring sleeping bag and climbing boots and possibly a car. Sign up with Carmela Kempton in the Office of the Master of Student Houses. About 15 students can be accomodated.

Job Recruiting

Four organizations will be on campus to interview for possible employment during the month of April. Garrett AiResearch will be on campus Wednesday, April 13, to interview all degree candidates in ME, EE, or MS for possible employment. On Monday, April 25, Hercules Inc. will interview Ph.D. candidates in ChE. BS and MS candidates in Engineering and Science may sign up for interviews with U.S. Navy Recruiting on April 29. The 46th Aerospace Defense Wing from Colorado Springs will be on campus April 29 to recruit BS and MS candidates in CE, Ae, EE, ChE, Ma, Me, AMa, and APh. If you have any questions or if you wish to sign up for an interview, please come in to the Placement Office in 8 Dabney Hall, extension 2362.

Sweet Revenge

Sweet Revenge will play to your lunch-hour delight this Friday noon-hour in the Winnett Quad. Jeny Caveaga and Patty Brotman will lay popular music on your saddened souls.

Attention Future Fatgrads!

To all sure graduates: Your copy of *The Graduate—A Handbook for Leaving School, 1977* is now available to you through the Placement Office. This magazine contains such articles as "Tracking the Elusive Job—10 ways to Stand Out From the Crowd," "First Impressions Count—What Recruiters Look For," "Employment Outlook '77." If these titles are of interest to you, pick up a copy of *The Graduate* in the Placement Office, 8 Dabney Hall.

ASCIT Budget Meeting

All interested parties are invited to attend the ASCIT Budget Meeting at 7:30 p.m. on Wednesday, April 20. The location has not yet been determined; ask Flora, Bert Wells, Mike Schwartz, or Tom McDonnell.

Musicale Members???

Over spring break, someone broke into the Musicale in the Fleming Basement and stole two speakers, a turntable and an amp. Before we replace these items (worth approximately \$1700) we would like to know who has used the room recently, and the amount of time involved (the key list disappeared 3 years ago). So anyone who currently considers himself a musicale member, please see FLORA in 105 Winnett.

Tennis Tournament

The Pasadena Closed Tennis Tournament will be held April 30, May 1, and May 7 and 8. Singles and Doubles sll be held for juniors (from age 12) to senior events. These will be open to all individuals who work in the Pasadena area or live in the area served by the Pasadena *Star News*. Applications are available at the City of Pasadena Recreation Division at 50 S. Los Robles (793-9177). Deadline for entries is 5 p.m. on Monday, April 8.

TQFR Questionnaires

To those of you who have not sent in your completed questionnaires for the TQFR, we need your responses to ensure the validity of the results. Please send them in as soon as possible.

Saga Ripoffs

During recent months, the number of students on board contract has dropped considerably. Unfortunately, this decrease has not been reflected in the amount of food that is used by the students. This puts Saga in a difficult position.

Please remember that food should not be taken from the dining room, and that guests must fill out guest meal cards. Also, while the BOC doesn't consider food service ripoffs, the IHC retains the right to prosecute violators.

The Week In Review

President Jimmy Carter cut twelve years off the prison sentence of G. Gordon Liddy, making him eligible for parole in three months. Carter made the decision in "the interests of fairness and equity."

French President Valery Giscard d'Estaing defended the French airlift of Moroccan troops saying that African friends must not feel abandoned when they are threatened. He went on to say that the airlift will end this week and that it was "absurd" to draw any connection between this and American involvement in Vietnam.

A **Los Angeles Superior Court** ruled that the L. A. School Board's plan for limited desegregation was unconstitutional. "I don't think California has a right to set standards lower than the 14th [amendment]," said the presiding judge.

By Kevin Drum

The **U. S. Coast Guard** took custody of a second Russian trawler which had violated its new 200-mile fishing limit. The U.S. warned that continued violations could hurt U.S.-Soviet relations.

The **Spanish government** legalized the Communist Party for the first time in thirty-eight years, opening the way to the party's participation in the first free elections in forty years.

Israel's Prime Minister Yitzhak Rabin announced that he was resigning his position in order to face charges over an illegal bank account with his wife Leah. "Morally and formally, I could not let her stand alone," he said.

President Carter said that he does not expect the political turmoil in Israel to affect peace negotiations in the Mideast. Carter said that he fully

expected that friendly relations between Israel and the U.S. would continue.

SALT negotiations with the Soviet Union will continue unhindered, disclosed President Carter. He said the U.S. was willing to reassess its offers and change them if they proved unfair.

Federal credit unions would be permitted to grant home mortgages, finance mobile homes, and offer large unsecured loans under a bill approved by Congress and awaiting President Carter's signature. Carter is expected to OK the legislation quickly.

Robert Fri, acting administrator of the Energy Research and Development Agency testified Friday that Carter's halt of plutonium reprocessing will increase the nation's radioactive waste problem. He said that spent fuel rods must now be considered waste and disposed of accordingly.

SENIORS & GRAD STUDENTS

HELP SCORE YOUR FUTURE THROUGH OUR
UNIQUE \$25,000 LIFE INSURANCE INVESTMENT
PROGRAM AVAILABLE EXCLUSIVELY TO YOU

—REMARKABLY LOW RATES

—SPECIAL SAVINGS BENEFIT
FEATURING THREE
ANNUAL CASH PAYMENTS

—DELAYED PAYMENT OPTION
UP TO THREE YEARS

FOR FURTHER INFORMATION
CALL RICHARD PLACHÉ 449-6555
SOUTHWESTERN LIFE INSURANCE COMPANY

THE YALE UNIVERSITY GUIDE TO LIFE AT CALTECH

Continued from Page Three

Student life at Caltech is unique. The student houses—there are seven of them—are a cross between dorms and fraternities. Students show fierce loyalty to their house and one of the first questions a visiting alumni asks a Caltech student is "What house are you in?" Interhouse sports are organized on an all-year basis and are run by an interhouse committee which also handles all other interhouse affairs.

The atmosphere at Caltech is what has been described as "oddly anti-intellectual." Although the brightest undergrads in the country reside at Caltech, many have an aversion to admitting that they have any more than a casual interest in any scientific subject. Most of them sadly concede though, that they can see the origin of that sentiment. "Many students here are so narrow in their development that a PDP 10 would make a better dinner companion," said one student, echoing the thoughts of many. One common complaint among students is that they cannot enter into lively discussions of scientific topics (which everyone at Caltech is interested in of else they wouldn't be there) for fear of being ostracized. "One is branded a 'nerd' for doing so," commented one disgruntled senior.

The Caltech student body organization, ASCIT, is completely independent of the institute (actually, it is a legally recognized corporation) as are all of the student body publications, including Caltech's weekly newspaper, *The California Tech* and

its yearbook, the *Big T*. Interest in student body affairs is usually light, affording great opportunity for rapid advancement in the student body hierarchy. ASCIT officers are often underclassmen and publications editors are invariably freshmen and sophomores.

ASCIT had one of the most successful relationships with its faculty of any college in the country. There are students representatives on all faculty committees except one, and students are given more of a voice in institute affairs than at most other universities.

Although Caltech has a rather staid social environment, a mildly determined student can find a great variety of things to do in the Pasadena area—if he has a car, a highly recommended amenity. And on campus there are many choices of environment. Of the seven houses, two have reputations as jock houses (at least as close to a jock house as Caltech will ever get), one is considered the domain of the heads, while another is for the quiet studiers.

Freshmen are selected by one of the houses at the beginning of the year in a football style draft after "rotation week" when the freshmen visit each of the houses for a day. Off-campus housing is becoming increasingly popular because of overcrowding in the student houses. Many students find that it is somewhat cheaper and they are able to get away from the somewhat confining Caltech atmosphere. Plans are afoot to increase the size of Caltech, possibly to introduce more diversity, but are being hotly fought by the students.

Rome Piccolo Opera Ambassador Auditorium Tuesday, April 19

The Rome Piccolo Opera, with the Virtuosi Di Roma accompanying, and in two separate Vivaldi concerts, will be appearing at the Ambassador College Auditorium, 300 West Green Street in Pasadena from April 19 through May 4. Operas scheduled include *Il Matrimonio Segreto*, *Egisto*, *Il Barbiere Di Siviglia*, *Il Mercato Di Malmantile*, *Il Maestro Di Cappella*, and *La Cambiale Di Matrimonio*. The concerts will feature the Four Seasons Concerti and the Concerti Op. III of Antonio Vivaldi. For program and ticket information, call the Ambassador Auditorium box office at 577-5511.

Kohlberg Lecture Beckman Auditorium Wednesday, April 20

Pacific Oaks College and Children's School, in cooperation with the Caltech Faculty Committee on Programs announces a lecture in Beckman Auditorium on the Caltech campus by Dr. Lawrence Kohlberg, professor of education and social psychology at Harvard University. Dr. Kohlberg will speak on "Moral Development and the Dilemmas of Moral Education," on Wednesday, April 20, at 8 p.m. The lecture is free, and the public is invited.

This will mark the tenth annual memorial lecture honoring Evangeline Burgess, who was president of Pacific Oaks College and Children's School at the time of her death in 1965. The College is considered a pioneer in the education of teachers of

young children.

Dr. Kohlberg, formerly a professor at Yale University, also served at the University of Chicago Department of Psychology and Committee on Human Development, and is a recipient of a National Institute of Mental Health Research Scientist award.

Spectrum Productions Premiere Ramo Auditorium Friday, April 22

Spectrum Productions announces the world premiere of Woody Allen's one-act play, "Death," and the West Coast premiere of Oscar Mandel's "Living Room With 6 Oppressions," scheduled for six performances in Caltech's Ramo Auditorium, on three successive weekends, Fridays and Saturdays, April 22, 23, 29, 30, May 6 and 7, at 8 p.m. Tickets are available at the Caltech Ticket Office.

"Death" is a "grand metaphysical jest of a play, grim, with shades of Ionesco," but Allen's one-liners hit the audience from every side. It will be directed by Shirley Marneus. Mandel's "Living Room with 6 Oppressions" is an anti-political political farce," and the audience will soon discover that it could be watching a proverb being enacted on stage, something like "Charity begins at home." Beatrice Manley will direct "Living Room."

This is Spectrum's 13th production since its inception in 1972, offering unusual plays of high literary merit. Oscar Mandel, Spectrum's artistic supervisor, is a Professor of Literature at Caltech and a playwright. Another of his plays, "The Virgin and the Unicorn" is being prepared for presentation in the Internationales Festival Kleiner Beuhnen, Bern, Switzerland, June 14-17.

For additional information on the premiere opening in Caltech's Ramo Auditorium, April 22 of Woody Allen's "Death" and Oscar Mandel's "Living Room," call (213) 793-7043.

Armchair Adventure Beckman Auditorium Friday, April 22

Bill Stockdale will personally narrate his film *Railroading 'Round the World* Friday, April 22, at 8 p.m., in Caltech's Beckman Auditorium. The world of Siberia—until recently closed to westerners—makes up the bulk of the program. Incredibly rich in resources thou miserably poor in material comforts, Siberia, it is said, may hold the key to world domination by the Soviet Union. Brief stops are also made in other areas of the world as "we" ride on famous trains as the Electric Scot, the Orient Express, and the Japanese Bullet. A limited number of tickets are still available for this delightful film. For information call (213) 793-7043.

Chamber Music Dabney Lounge Sunday, April 24

Jonathan Mack, tenor; Cindy Cole Daley, violin; Barbara Thomason, viola; Greg Moore, Violin; Delores Bing, cello; and Richard Grayson, piano, will be heard in a Dabney Lounge Chamber Music concert Sunday, April 24 at 8 p.m. in Dabney Hall. Music by Donald Crockett, Ralph Vaughan Williams, and Michael Tippett is programmed for the free concert.

Gilbert & Sullivan Pasadena Civic Saturday, April 30

Currently celebrating its 25th anniversary, San Francisco's prestigious Gilbert & Sullivan troupe, the Lamplighters, presents "The Pirates of Penzance" in the Civic Auditorium Saturday and Sunday, the 30th of April and 1st of May at 2 p.m. and 8 p.m. Boasting a company of 90 performers, "Pirates" is known as one of the finest lampoons of Italian Grand Opera. Tickets for each performance are available through the Civic box office, 449-9473. For further information, call 275-1168.

OVERTHROW THE INCUMBENT EXTREMIST SCHOOL BOARD MONOPOLY

**VOTE
for
WALLACE G FRASHER, Jr. Seat 1
and
RALPH HALLMAN Seat 3**

**Tuesday April 19
Winnett Center - 7:00 a.m. to 8:00 p.m.**

ENDORSED BY MANY MEMBERS OF THE CALTECH COMMUNITY,
INCLUDING PROFESSORS' DELBRUCK, FAY, GELL-MANN, LEES,
PINE, AND SWEETZ.

Paid for by Citizens to Elect Wallace G Frasher
Chairman - Don Cobleigh Treasurer - Robert Banning

*Cal
Arts*

SCHOOL OF MUSIC
announces
SCHOLARSHIP
AUDITIONS

for the 1977-78 academic year

Valencia, California—April 23, 1977—10:00 a.m. to 4 p.m.
California Institute of the Arts.

New students (undergraduate or first-year graduate) in the following performance specializations will be given special consideration for the awarding of 4 full and 4 one-half tuition scholarships: Harp, Harpsichord, Clarinet, French Horn, Violin, Voice (all ranges).

Harp, harpsichord, piano and accompanist will be provided. Applicants must provide all necessary music scores.

An appointment to audition is required.

For audition appointment, application and further information contact: Office of Admissions, California Institute of the Arts, Valencia, California 91355. (805) 255-1050, ext. 185.

CalArts is a privately supported institution of higher education devoted exclusively to the visual and performing arts with Schools of Art and Design, Dance, Film/Video, Music and Theatre offering B.F.A., M.F.A. and certificate programs.

Can you be good at something you don't believe in?

Yes.

You can be good at passing tests that are meaningless to you.
You can be good at selling encyclopedias that you know are inferior.

Ultimately, you can even be good at a profession that you
don't really believe in.

You can be good. But for some people, being good just isn't
good enough.

For the people who brew Busch beer, it isn't
good enough. That's why, at Anheuser-Busch, we persist
in brewing Busch beer just one way—the natural way.

We frankly believe that's the best way to brew beer.
And when you believe in what you're doing,
you just naturally do it better.

Try a Busch.

We believe you'll agree.

BUSCH®

When you believe in what you're doing,
you just naturally do it better.



Editor-in-Exile**J'ai bu du Cafe Noir**

Former Tech Editor-in-Chief Sandy McCorquodale is currently studying in France while on a year-long leave-of-absence from Caltech. His far-flung adventures on the Continent appear here semi-regularly.

McQ has begun his previously mentioned four-week jaunt through Europe. This week he reports from Brussels on a few of his (typically strange) adventures in Switzerland and Luxembourg.

by Sandy McCrocodile

Now that the dog days of third term have settled on the scientific piece of the Southland known as Caltech, I can bop all over Europe with even more irresponsibility as I think of all the Neurochemical nonsense I'm missing. Until next year.

Bee-bopping down to Basel on the Trans-Europe Express (which also happens to be the name of the Kraftwerk song that has my vote for the most inane song of the past year, except for, perhaps, a certain Johnny Cash/Bob Dylan *duet* which is in a class by itself...) I found myself in the midst of the Swiss, either good or bad, depending on how you tick. Swiss women tick very well with me. As it happens, I am a leg-man, and that has nothing to do with what I order at the Colonel's. You see, I like a well-rounded sexy thigh tucked suggestively-short skirt coupled with a supple erogenous knee slipping into a pert calf, all written in the singular for you monopede maniacs in the audience. In short, French women have lanky legs and Swiss women have legs which turn me on. Another frank admission from a frustrated Caltech heterosexual.

Basel itself is tightly organized and exudes being *very* civilized. Every street corner has one sign directing one to France and another directing one to Germany while the next intersection has the same signs pointed in exactly opposite directions. One purchases one's bus or tram tickets before getting on and everything is dreadfully expensive. Of course, if one *does* walk a few blocks down the wrong strasse, one *will* wind up

in France or Germany and lose the benefits of being completely civilized. The Rhine is spectacular and the food is fine enough to take your mind off the women. Give the city three Jupiters, a Mars and a handful of Plutos in the *Guide Crocodile*. (I mean, a little personality cult never actually *hurt* anyone...)

Luxembourg, a pox on whatever induced me there, was lousy. I arrived at eight on a Friday evening and promptly walked all the way across the city in the pouring rain in search of a youth hostel, which turned out to be closed once I found it the next afternoon. I then walked back across the town, rain still soundly dropping, to the hotel district, thinking all the while what wonderful copy this would make for those who don't like what I say in the weekly debacle. Since no place was open to sell me a map, I walked by way of landmarks and wound up walking three times as far as across-the-city-and-back really is. (Want to try this? Walk from Petrillo's to Caltech by sighting on Mt. Wilson.) Looking like the creature from the black lagoon when I walked up to the front desk, I finally obtained a room and tried to find that megawatt fiend Radio Luxembourg on my radio. I could barely get it and it kept fading in and out, which was just as well as the Big L is the epitome of Top 30/hit commercial radio.

The next day, with map and sun, I covered all the ground again. The city is surrounded with "ancient forts," mostly because the Luxembourgise (rhymes with Strasbourgise) consider any stone tower of some age and bigger than a phone booth to be an "ancient fort." The biggest is smaller than the coffee-house and the town's water tower (*Chateau D'Eau*) is bigger than all of them put together. The high point of the day was running across a group of nerdily-looking toads in MIT sweatshirts on the auspicious *Boulevard Frank Roosevelt, President des United States 1868-1945*.

"Is that Notre-Dame?"

"Naw, Notre - Dame is supposed to be a big cathedral. Real impressive and all that."

"Yeah, but that's Paris. This is just one of those little Notre-Dames..."

Bre-ke-ke-kek Ko-ax Ko-ax.

Bre-ke-ke-kek Ko-ax, for those of you who know anything about Aristophanes.

But let me leave you with a Sphinx's riddle of etiquette as observed one blustery Basel afternoon: One elderly Swiss matron-of-society walking her smart schnauzer encounters another elderly Swiss matron-of-society out walking her pert poodle and they strike up a conversation. But no sooner has this happened than the smart schnauzer takes a liking to the pert poodle and, without so much as a *how-do-you-do*, hops on her back and begins giving her the old in-and-out as freely as if she were Alaska and he the pipeline. How can the elderly Swiss matrons-of-society separate the two dogs without admitting what's going on and without looking as if they're trying to not admit what's going on and without committing any other social gaffes?

Swords and Starships**Sci-Fi Magazines**

By Nick Smith

There are three magazines recently arrived on the newsstands that you might want to notice, all three for different reasons.

The first of these is *Cosmos* a professional, slick-cover, large-sized SF magazine. The first issue has material by Fritz Leiber, Larry Niven and several others. What makes this magazine unusual is its quantity of SF art. The 8½ X 11 format gives them the ability to print large illustrations, some of them in color (unusual for an SF magazine). The price is very cheap for what you get, \$1 for the first issue and \$5 for six issues by subscription. One of the first major works in it is the serialization of the newest Leiber "Fafhrd and Gray Mouser" story. Another drawing card is that

they have gone out of their way to obtain good writers and reviewers for their columns. This one is well worth the price.

The second magazine worthy of note is called *Heavy Metal*. This is the one that the National Lampoon people have been mentioning lately. Contrary to popular opinion, it was not just another of their jokes. It is a real magazine, sort of a very expensively done underground comic. Quite a few pages of color, including the two color prints from the fantasy hype of the year, *The Sword of Shannara*. (That last, by the way, will get a separate review after I wade through it [about five years from now]). *Heavy Metal* also contains material by Richard Corben, the late Vaughn Bode, and several French artists, mostly done in high-grade comics format. Much of the work is very good, some of it is incomprehensible to the casual observer. This one has a great deal of potential. I suggest taking a look at it at your local newsstand.

The third magazine is the 7th issue of a thing called *Star Reach*. This one is somewhat hard to find, but worth the trouble. It started out as something between a regular commercial comic and a true underground comic. The result is something called "Ground level comics" While this issue is not as good as number 6 was (which had a long Elric of Melniboné adaptation) this one is still fairly good. There is an illustrated version of some of the Greek myths, and a great deal of original material of decent quality. The cover is by Barry Smith, who drew many of the early Conan comics for Marvel. If you can't find this one, and I admit that it's hard to find, you can buy copies for \$1.25 + 35 cents postage and handling from Star Reach Productions, P.O. Box 385, Hayward, CA 94543. If you like SF and if you also like the better quality undergrounds, you'll probably like this one.

Book News!!!!

For all of you Conan fans, you can stop biting your fingers down to the elbows. Ace has announced that they will be releasing all 12 Conan books in a unified edition (that's right, the previously unreleased *Conan of Aquilonia* too) next month. According to my information, there will even be a Frazetta cover for the 12th book to match the others, which will be re-releases of the old Lancer editions. So you can stop fighting over the decaying copies that remain in the House libraries, because the whole series will be available again.

Also, if you're interested, Zebra is continuing to find Robert E. Howard's other printable material (via a much more expensive hardcover edition) and has released another paperback, *Black Vulmea's Vengeance*. This one is made up of pirate stories bearing a striking resemblance to the type of stories in *Conan the Buccaneer*. I don't know how many volumes are planned in this series, but Zebra has released several to date, most of them very good.

ASCIT-GSC PARTY A SUCCESS

Continued from Page One

A common complaint is that the party was scheduled poorly, two weeks after the beginning of the term, which didn't give the houses time to prepare adequately. However, Guttierrez thinks that the houses shouldn't have had as much trouble as they did.

Poor Planning?

The party may also have suffered from poor planning. The munchies were gone by 9:30 and the wine went at a "tremendous rate" according to Wells. The party also started very slowly,

possibly due to apprehension over last year's flop, but picked up later in the evening.

The party cost about \$600 (plus or minus \$200) according to Guttierrez. He listed costs of \$450 for the band, \$116 for the beer, and about \$50 for bread and cheese. The cost was split evenly between ASCIT and the Graduate Student Council (GSC). The party is agreed to have been a success, with estimates of attendance ranging from 400 to 500. "I think the momentum will build up and we should keep on doing it," concluded Wells.

GRADUATION SPEAKER

Continued from Page One

won't do any more about it now DuBridge has already agreed to speak and it would be very ungracious to fuss too much now" she concluded.

Commencement speakers for the last several years have included John Knowles, Rockefeller Foundation president; Harry Gray, Caltech professor of chemistry; Richard Feynman, Nobel Laureate and Caltech professor of physics; John Hogness, president of the Institute of

Medicine and the Academy of Sciences; James Fletcher, NASA administrator; and Philip Handler, president of the National Academy of Sciences. DuBridge's appearance will mark the fourth time in eleven years, and the third within the past four years, that the commencement speaker has been associated with the Institute.

The members of the Conventions Committee are Bob Oliver, A. L. Albee, R. V. Langmuir, and M. S. Plesset.

JUNIORS

EARN

\$6000

DURING YOUR SENIOR YEAR
JUST FOR GOING TO SCHOOL

AND
BECOME PART OF THE
MOST PROGRESSIVE
ORGANIZATION IN

NUCLEAR PROPULSION

GUARANTEED
GRADUATE LEVEL TRAINING
RESPONSIBILITIES

CHALLENGE
COMPETITIVE SALARY

SEE THE NAVY'S NUCLEAR
POWER REPRESENTATIVE

At the Placement Center

27 April, 1977

10 a.m. - 2 p.m.

or call (213) 468-3321

ROMA GARDENS

BEER & WINE

ITALIAN CUISINE

PIZZA

SPAGHETTI

RAVIOLI

OPEN 5-11 p.m. Sun-Thurs

5-12 p.m. Fri-Sat

10% off to all CIT students
in dining room 7 days/week

Use new back entrance for picking up orders

1076 E. Colorado

449-1948

ADMISSIONS

Continued from Page One
as a spinoff of getting the faculty heavily involved in the undergraduate admissions process—a procedure apparently not typical at other schools—there is increased interest by the faculty as a whole in that process, and more of an interest in the total undergraduate program. Also, the faculty manages to do a lot of the grunge work required, including travelling to interviews, in a remarkably short time, considering that we avoid the “missionary approach” (i.e. the hiring of specialists for the task).

“The most important product coming out of Caltech are young people—both undergraduates and graduates,” Dr. Shair declared enthusiastically. “As long as enough faculty members take an interest in teaching and in the rest of the student program—there is a great deal of potential for improvement.” Having faculty involved in admissions and financial aid tends to give them “more than a compartmentalized view.”

Introductory remarks completed, the floor was opened for discussion. One of the first questions raised was, “If less than 220 people respond positively, why go to the waiting list?” Dr. Shair said simply, “Because of the good students there.” He added, though, that the Admissions Office is still under the assumption that “220 is an upper limit as long as we still have quality students.”

Distribution Among Options
He emphasized next that a more serious problem than the overall size of the Caltech student body (“After all, it doesn’t seem that either a majority of the students or a majority of the faculty want a substantially larger student body...,” and the main result of the discussion on the subject may be better communication and concern on the part of the faculty) is the distribution among options. Some figures and trends were quoted; the gist being that certain options in engineering had been growing astoundingly during the last three years, and the large class sizes in certain courses were making teaching difficult. “The Institute should at least be aware of what the limitation of growth in certain areas will probably do to the quality of instruction in certain areas.”

Dropouts
At one point the following exchange occurred:
Wells: If the Institute is such a good place to learn, “why are there so many dropouts?”
Shair: This is a “soft area,” so I’ll give you my opinion.” He compared Caltech with IIT, noting many similarities in the lifestyle and character of the students, and said, “Tech students may have special problems in learning good study habits for example—many haven’t needed to develop good study habits in high school.” He spoke of the opportunities for improving the social situation at Tech, and said Meador, “The Y may be able to help a lot in this regard.”
Dr. Owen noted that “many persons starting as engineers are not graduating in that field,” which may affect Caltech statistics somewhat. Dr. Shair stated, “If we weren’t talking about the ‘cream of the cream’ of students graduating from our nation’s high schools, I’d also tend to minimize the problem.”
The question arose of how

students feel who do leave Caltech. Someone suggested that perhaps many of feel badly about disappointing the faculty or the admissions people. Dr. Shair: “I think the last thing they should worry about is disappointing the Freshman Admissions Committee.” Dr. Owen said later on the same subject that strong reasons for leaving do not always involve bad feelings. Often a student just isn’t sure he’s getting his money’s worth compared to other schools.

The New Engineer
Dr. Shair spoke of the problems of the world, such as population and energy, which will be facing engineers in the next few decades. He suggested that Caltech may shift somewhat its emphasis from “producing people in our own image” to creating more engineers who are sensitive and competent and who will work in areas throughout our society than is currently being done.

It’s true that Tech admits an overall younger and perhaps less experienced group of freshmen that other schools do. It was suggested that this may be part of the problem here as well. Dr. Shair agreed the possibility was valid, and confirmed that the Upperclass Admissions Committee, in the “horserace” of academic competitiveness, “knows the horses better” and has a better track record in attrition statistics.

Dr. Mayer inquired, why don’t we admit more freshmen...recognize that their interests will change...and have a strong transfer department?” Dr. Shair acknowledged the possibility, along with taking other kinds of corrective action.

In conclusion, Dr. Shair lamented the fact that at a small island like Caltech the communication is often poor. “People feel isolated on this little island...we don’t need more students, but improved communication. We also need better feedback in order to give the faculty a better perspective of what is going on—and what could be improved.”

Engineering Most Popular Option

By Alan Silverstein
To get more for your education dollar, sign up for Engineering. That seems to be a prevailing thought in recent years, as Engineering and Applied Science once again was the choice of nearly a third of the freshman class. By Wednesday, 191 of the 218 who registered as freshmen at the start of the term had turned in their option choices (due last Monday) to the Registrar’s Office, and four others had indicated that they were leaving the Institute. Cal-

tech started the year with 230 freshmen (and 225 remained registered last term), 12 have disappeared since matriculation, and the remaining 23 must be either absent-minded or indecisive.

The accompanying table tells the tale better than prose could pretend to. After you’ve drawn your conclusions from it, note as well the following:

- 1 Figures for previous years are from the Registrar’s Office
- 2) “Not Declared” is at the time of publication of the article.

- 3) Percentages, rounded off, do not add up to exactly 100.
- 4) Geology also includes geochemistry (0) and geophysics (2), the same distribution as last year.
- 5) Second majors were chosen by eight persons, as follows: Math-2, Physics-2, Economics-2, Applied Math-1, Astronomy-1.
- 6) Four frosh signed up to major in Journalism and have not been heard from since, which is probably why I’m writing this article for the third time in four years.

Frosh Option Choices

I. BY OPTION

| | This Year | | Last Year | | '74-'75 | | '73-'74 | |
|----------------------|-----------|-----|-----------|-----|---------|-----|---------|-----|
| | % | NO. | % | NO. | % | NO. | % | NO. |
| ENGINEERING | 31 | 60 | 32 | 68 | 29 | 56 | 22 | 42 |
| PHYSICS | 17 | 33 | 15 | 31 | 19 | 36 | 17 | 33 |
| CHEMISTRY | 9 | 18 | 11 | 24 | 9 | 17 | 12 | 23 |
| BIOLOGY | 8 | 16 | 10 | 22 | 10 | 19 | 12 | 24 |
| MATHEMATICS | 8 | 16 | 7 | 15 | 12 | 22 | 12 | 23 |
| CHEMICAL ENGINEERING | 7 | 13 | 8 | 17 | 6 | 12 | 3 | 6 |
| APPLIED PHYSICS | 7 | 13 | 7 | 15 | 5 | 10 | 6 | 12 |
| ASTRONOMY | 4 | 7 | 4 | 9 | 3 | 5 | 8 | 16 |
| APPLIED MATHEMATICS | 4 | 7 | 2 | 5 | 2 | 3 | 3 | 5 |
| GEOLOGY | 3 | 5 | 2 | 5 | 6 | 11 | 3 | 5 |
| LITERATURE | 1 | 1 | 0 | 1 | 0 | 0 | 1 | 1 |
| ECONOMICS | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 1 |
| SOCIAL SCIENCE | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| HISTORY | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| INDEPENDENT STUDIES | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| | (101) | | (98) | | (101) | | (102) | |
| TOTAL DECLARED | 88 | 191 | 97 | 212 | 97 | 191 | 95 | 194 |
| NOT DECLARED | 11 | 23 | 1 | 3 | 1 | 2 | 4 | 8 |
| NOT RETURNING | 2 | 4 | 2 | 4 | 2 | 4 | 0 | 2 |
| TOTAL REGISTERED | 101 | 218 | 100 | 219 | 100 | 197 | 99 | 204 |

II. BY DIVISION

| | | | | | | | | |
|-------------------------|-----|-----|----|-----|-----|-----|-----|-----|
| ENG. & APP. SCIENCE | 38 | 77 | 39 | 83 | 35 | 66 | 28 | 54 |
| PHYS., MATH., & ASTRON. | 33 | 63 | 28 | 60 | 35 | 66 | 40 | 77 |
| CHEM. & CHEM. ENG. | 16 | 31 | 19 | 41 | 15 | 29 | 15 | 29 |
| BIOLOGY | 8 | 16 | 10 | 22 | 10 | 19 | 12 | 24 |
| GEOL. & PLANETARY SCI. | 3 | 5 | 2 | 5 | 6 | 11 | 3 | 5 |
| HUMANITIES & SOC. SCI. | 2 | 3 | 0 | 1 | 0 | 0 | 2 | 4 |
| INDEPENDENT STUDIES | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| TOTAL DECLARED | 100 | 191 | 98 | 212 | 101 | 191 | 101 | 194 |

COMMITTEE TO STUDY SIZE OF CALTECH UNDERGRADUATE CLASS

Continued from Page One
effort to house people off-campus, especially large numbers of freshmen, will meet with some resistance.
It has come as a surprise to many that the Institute is faced with the housing problem, since average freshman enrollment over the past four years has been 219. However, the attrition rate is slightly down, and every year fifteen to twenty transfer students (who tend not to drop out) are admitted to the upper three classes. And, of course, when seen over a longer period of time, the size of the student body has increased quite a bit (27% in the last eleven years).
In any case, the housing

problem exists now, and would be accelerated by an increase in the number of students.
One indicator that can be used to help determine the best size for the undergraduate student body is the student/faculty ratio. At Caltech, there are roughly 250 full time professorial faculty and 869 undergraduates (as of registration last fall). The student/faculty ratio is thus about 3.5. While this low figure is, at first glance, impressive (when compared to other schools), it could very well be misleading. The true student/“teaching” faculty ratio is undoubtedly much higher, due to the great emphasis here on research.
The Optimal Size Committee will probably look into the

validity of the use of such figures, and in any case, try to determine the real amount of time spent teaching undergraduates at Caltech.
A third issue is the student body diversity, and current lack thereof. One argument is that, by increasing the number of students to, say, 3000, there will necessarily be more diversity, and for sure, more women.
The 1972 Optimal Size Committee concluded that this is not the case. “Unless criteria for admission are changed qualitatively, an increase in the freshman class would do very little toward increasing diversification.” The committee considered the possibility of a quota system (by option) for the admission of freshmen. That

committee could not, however, come up with any system that would be effective. The present committee might again consider such a plan.
The Committee
The faculty members of the Optimal Size Committee have been chosen by R. E. Vogt, chairman of the faculty, as directed by the Faculty Board. Dr. Vogt’s selections are:
Norman Davidson, *Chairman*
John Bercaw
Richard Dean
Morris Fiorina
Floyd Humphrey
Ricardo Gomez
David Morrisroe
William Schaefer
Fred Shair
Leon Silver
David Wood

“Since 1935”

ANG'S INN

1500 E. WALNUT
(1 block East of Hill)
PASADENA

GENUINE CHINESE DISHES

Family Style Dinners

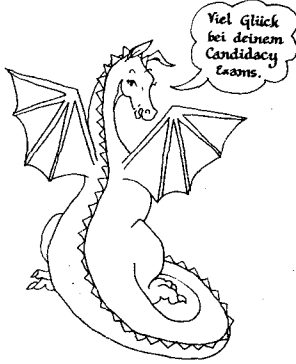
LUNCH • BANQUETS • FOOD-TO-GO

Specializing in Fried Shrimp

CHOW MEIN • CHOP SUEY

OPEN 7 DAYS NOON to 10:30 PM

Call 449-9772



Beavers Drop Close Game To Whittier

by Tom Creswell
Caltech Baseball narrowly missed its first win this season in Wednesday's 2-1 loss to Whittier, called "our most outstanding game in recent years" by Coach Ed Priesler.

Behind Doug Rountree's excellent pitching, impeccable in-field play by Ed Rea and Pat Reardon, plus five Caltech hits, keeping pace with Whittier's five, the team put on a good, consistent performance that may be a sign of better things to come.

"This year we have two outstanding pitchers in Rea and Rountree," Priesler commented, giving credit to holding nationally ranked LaVerne to 3 runs in a recent game. He also said that Rea had 101 strikeouts two-thirds of the way into last season before being injured, which would have put him first or second in the country had he continued at that pace.

The lack of other experienced pitchers on the team has led to trying out Jim Jacobs and Mark Fortunato to alleviate the constant pressure on Rountree and Rea to pitch.

Hitting .160 in a league that averages about .100 higher is about standard for Caltech, and lack of consistent hitting, or a few hits when they're really needed, has been a sore spot with the Beavers. Jacobs and Rea have helped out quite a bit (Rea got a grand slam home run in last Saturday's doubleheader vs. Oxy), but the team has been unable to put together a winning performance. This has led to the use of unorthodox methods, for example, the use of bunts and sacrifice flies as opposed to steals to get men in position to score. Tech's first two runs this season came off wild pitches.

In looking at the lineup, Priesler spoke of his first base-catcher combination of Fortunato and Jacobs; both men play both positions well. Ron Klapproth is back from several weeks of flu to add strength in left field. Bob Winchell or Fred Crimi will take second base with Crimi's occasional loan to the outfield. Al Sepulveda plays center and Jim Jacobs plays right

field, switching to third when Rea pitches. Pat Reardon at shortstop and Rea at third make a strong infield combination. The fact that Priesler often has only nine players to play a game means the only way he has to

relieve pitchers or rest players is to switch positions.

The Beavers play a double-header vs. Claremont-Harvey Mudd, one of the tougher teams in the SCIAC, this Saturday at 2:00.

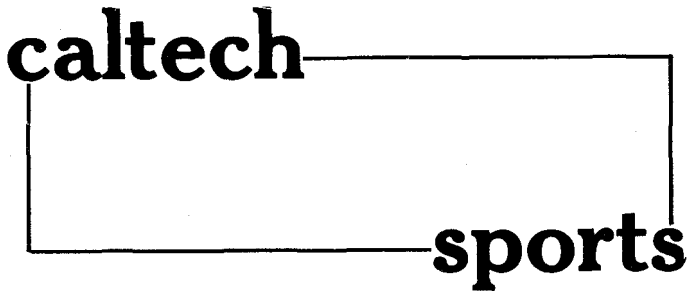


Photo-Jean Uwate
Pat Reardon sliding into third to complete his triple.

Golfers Embarrass Redlands

By Rock Howard
The Caltech golf team has yet to win a match this year, but they have made a couple of good showings. Against Redlands, Tech had three players win 16 of 18 possible points, so embarrassing the Redlands team (which won by forfeit) that they walked off the golf course indignantly after the 13th hole. Last Monday, three players again played and scored 14 of 18 points as Robert Chess and Charlie Curatalo combined for a best ball score of 73.

The Tech golfers are still looking for their first hole-in-one of the year. Curatalo had one interesting stroke of luck [*Was that pun intended, Rock? -Ed.*] however, where he hooked a drive into a parking lot where the ball struck a curb and bounced onto the green to within a couple of feet of the cup to set up an easy birdie.

Golf coach Hal Cassie is back for his tenth year with Caltech. Cassie is a former club champion at the Anondale Golf Club which is Caltech's home course.

There are a fair number of participants on the golf team this year. In fact, for the first time in many years, the team fielded a full six-man team for a match. The team is led by Robert Chess, who has accounted for most of the Team's points. Other participants include Nelson Goldikiner, Chris Meissner, Charlie Curatalo, Francis Mukai, Doug Jones, Jim Finlay, and Alan Boyar.

This weekend the Tech golf squad travels to San Diego for the Southern California Intercollegiate Championships. The meet will be held at Torrey Pines which is the home of the Andy Williams San Diego Open.



Photo-Al Kellner
Tom McCabe finishing in a tie with his USIU opponent.

Track Team Wins Two

By Tommy Trolljan
The light-fantastic Caltech track team won not only one meet this week, but two. The two hapless opponents were U.S. International University and Los Angeles Baptist College with a triangular meet score of Caltech 69½, USIU 53, and LABC 48½ points. Since Caltech was missing a few key men, the team experimented in different events.

Field Events
In the field events, Caltech did fairly well. Brian Sutula tossed the javelin 133'1" for third place behind Thompson of LA Baptist (203'10½"). In the shot put, Norm Murray, gaining experience for the decathlon, took fourth (31'2") while Bill Graham, putting it "cause it's there" placed further back (24'3"). The winning mark was 45'4" by Estrada of USIU.

John Chu won the pole vault again in 9'6" on a pole "that wouldn't bend" as his favorite pole broke (quite expectedly). He also placed fifth in the high jump with a flop of 5'0". Thomas of USIU was first with a 6'0" jump. Sutula placed second in the discus with a whirl of 108'6". The winner, Estrada of USIU, threw the "frisbee" 139'10". Duane Boman placed second in the long jump (20'1¼"), not far behind the winning leap of 20'11" by Watkins of USIU. Watkins also won the triple jump in 43'10", but the bigger story there was the third place finish (37'9¾"), first time jump by Francis Mukai. Tech's Boman jumped to fifth place with a leap of 36'7¾".

Running Events
Running events started as usual, with the 440-yard relay, as Caltech placed second with a season best of 45.8. The straight 440, won by Watson of USIU (51.2) featured a last 110-yard rip by John Hattick for second place (54.2)—outstanding for his second race. Duane Gray placed third in 55.2. In the twice-around event, the 880, Tom McCabe (2:04) came ever closer to the 2-minute barrier, tying for

first with Matsaha of USIU. Davis Finley took third (2:10.3) and Rob Bourret was close behind (2:11.0).

In the sprints, Tech's Norm Murray took the 100 in 10.6, while Bill Graham garnered fifth in 11.3, and Lam took sixth in 11.6. In the 220, won by Watson of USIU in 23.6, Brian Sutula ran a fine 24.2 for third place. Graham ran a 24.8 with Joel Okazaki close behind.

CLASSIFIED ADS

FOR RENT

1-bedroom unfurnished apartment in older duplex. High ceilings, private patio. Newly redecorated. Appliances, venetian blinds, carpet. Garage, coin laundry. East Orange Grove Boulevard near Caltech. \$190 month. Call 355-2445.

FOR SALE

MAXWELL'S EQUATIONS OF ELECTROMAGNETISM proudly displayed across your chest. No-not a tatoo; but these timeless equations imprinted upon a sweatshirt (\$7.00 ea.). Sm/med/large. Navy w/white lettering or white w/navy lettering. Order yours now Send your check or money order to L.S. Doty 350 Commonwealth Ave. Boston, Mass. 02115. Sorry no COD's.

OPPORTUNITIES

HELP: Moving. Need 2 people to help me move to a new home on Sunday, April 24. Will pay \$20 each. Call Bob, x1437 day; 793-0565 home.

SERVICES

ACCURATE AND EXPERT TYPING by executive secretary. Will do theses, manuscripts, papers for students and faculty. IBM selectric. Fast service, reasonable rates. Call 441-1410

TRAVEL

EUROPE
-inexpensive camping trips
-student/faculty flights Write or call for free brochures National Student Travel Bureau, 1007 Broxton Ave. No. 18, Los Angeles, CA 90024. 213-478-0220

Buying or selling something? You, too, can take out an ad in *The California Tech!* \$1.50 per inch plus \$.25 per extra line for Classifieds. Bring ad copy to the Tech office or phone ext. 2154.

Sports Calendar

| | | | |
|-----------------|------------|-------------|-------------------------|
| Fri., April 15 | 3:00 p.m. | TRACK | Ambassador |
| Sat., April 16 | 11:00 a.m. | SOCCER CLUB | @ Evans |
| | 12:00 noon | BASEBALL * | Claremont-Harvey Mudd |
| | 1:30 p.m. | TENNIS | @ Pomona-Pitzer |
| Mon., April 18 | 1:30 p.m. | GOLF | LaVerne |
| Tues., April 19 | 3:00 p.m. | BASEBALL | @ Claremont-Harvey Mudd |
| April 21 to 23 | All day | TENNIS | Ojai Tournney |
| Fri., April 22 | | TRACK | Mt. SAC |
| | | | Relays @ Walnut |
| | 1:30 p.m. | GOLF | @ LaVerne |

* Doubleheader; All events at Caltech unless otherwise indicated.

Second Class Postage paid at Pasadena, California. *The California Tech* is published weekly except during examination and vacation periods by the Associated Students of the California Institute of Technology, Inc., Winnett Student Center, Caltech 107-51, Pasadena, CA 91125.

SAT:
SUN:
APR. 19-21
APR. 22-23
COMING:
DOUG WESTON'S World Famous

VOONDERBAND
NAVASOTA
CALL FOR INFO
JENNIFER WARNES
GENE COTTON
MICHAEL HENDERSON &
RANDY CRAWFORD

COCKTAILS • DINNERS • HOOT MONDAYS • NO AGE LIMIT
9081 SANTA MONICA BLVD., L.A. 276-6168