

San Diego Shows Concern for Observatory

While the citizens of San Diego show no marked preference for either high or low-pressure sodium street lights, they do show considerable concern for the welfare of astronomical observatories, including Palomar Observatory, a new public opinion poll has found.

In a poll commissioned by Caltech, which operates Palomar, and conducted by the Social Science Research Laboratory of San Diego State University, about two-thirds of the respondents who were not supporters of low-pressure sodium lights agreed that they would "be more likely to approve of them if low-pressure sodium lights were shown to cause fewer problems for local observatories." This group consisted of people who oppose low-pressure-sodium lights, saw no difference, or had no opinion.

Overall, the study showed that 23.4 percent of those residents polled found low-pressure sodium lights more acceptable than high-pressure, 21 percent found them less acceptable, 43.4 percent saw no difference in acceptability, and 12.2 percent had no opinion. Of businesspeople interviewed, 86.2 percent either saw no difference in the lights, or had no opinion.

"We believe it highly significant that about 80 percent of those polled either found low-pressure sodium

lights more acceptable, equally acceptable, or had no opinion," said Dr. Gerry Neugebauer, Caltech professor of physics and director of Palomar Observatory. "We were highly gratified to find that people do care about the fate of astronomical observatories, and are willing to cooperate to allow them to continue their studies unfettered."

The poll, which was taken in September, 1983, consisted of telephone interviews with 580 San Diego residents. This sample included a random sample of residents, a group living in areas lit by low-pressure lights, and a sample of commercial enterprises.

The pollsters found no significant differences in acceptance of the low-pressure sodium lights between residents of low-pressure sodium-lit areas, and the random sample.

Astronomers at Palomar Observatory and San Diego State's Mount Laguna Observatory have asked the City of San Diego and surrounding communities to consider using low-pressure sodium street lighting, because the light from them does not blind telescopes as does light from high-pressure sodium lamps.

"When the economic advantages of low-pressure sodium lighting are factored in, we believe citizens' preference for the lights will be even more pronounced," said Dr. Neugebauer.

Next Week Is Career Development Week

The Career Development Center is designating the week of February 13-16 as Career Development Week. There will be four career-related activities for students scheduled throughout the week.

On Tuesday morning, February 14 from 10 to 11 am, Dr. Fred Shair will present a talk on "Undergraduate Research Opportunities" in Winnett Clubroom I. He plans to offer encouragement and information not only on the Summer Undergraduate Research Fellowship Program but also on other ways of becoming involved in research as an undergraduate.

There will be a very exciting program, "Choosing Your Option," on the evening of February 14 from 7:30 to 9:00 pm in Winnett Lounge. While designed mainly for Freshmen (who will be faced third term with the need to declare their option!) it is also on to anyone reconsidering his or her option, to anyone wanting to "comparison shop" or to anyone who is simply curious. To provide a variety of perspectives, most options will be represented by Faculty

members, by recent alumni & by upper level students who will all be glad to talk informally. Refreshments will be served.

On Wednesday, February 15 at 4:00 pm, there will be a presentation for "Getting Into Medical School." It will be held in 155 Church. Both Dr. Marlene Coleman, the Pre-Med Advisor on campus, and Sally J. Asmundson, Director of the CDC, have a great deal of experience working with undergraduates who may be planning to enter medical school in the future.

Lastly, February 16 is the Caltech Career Day when representatives of various organizations spend a day on campus talking with ANY interested undergraduates or graduate student, research fellow, faculty member or student affairs staff member. The atmosphere is informal and any questions are permissible. Career Day will be held in Winnett Student Center from 11:00 am to 3:30 pm. This year there will be 37 organizations with displays, various computers, balloons and deep-dish antenna receiving satellite transmissions.

Caltech Will Phase Out Army Analysis Program

By Chris Meisl and Ken Whang

Caltech will not keep the Arroyo Center. That was the Administration's message to over 200 students at last Wednesday's Administration-Student Discussion.

At the meeting, President Marvin Goldberger presented a history of the Arroyo Center's development including the January 30 faculty recommendation that the Center be divested as soon as possible. After the presentation, Goldberger and Provost Robert Vogt entertained questions

from the students.

Vogt stressed Caltech's commitment with the Army in setting up the Center, which would make it highly embarrassing and "dishonorable" for the institute to back out.

However, the administration is determined not to maintain the Center as previously planned. Instead, a "Memorandum of Understanding" between Caltech and the Army will define the terms and schedule under which Caltech's involvement is "phased out," Vogt said.

Within three years, the Ar-

my Analysis Program will be either terminated by the Army, spun off as a free-standing organization, or administered by another institution.

The phase out will probably occur gradually over Caltech's entire period of involvement, as opposed to abruptly dropping the program at the end of the period, added Vogt.

Several questions concerned the proposed time period of Caltech's association with the Center. Goldberger explained more than once that the Center could not be dropped immediately but assured that it would be divested as soon as possible.

One student asked why we could not keep it for longer than three years. This would directly conflict with the faculty's recommendation.

In response to questions addressing why the administration did not fully inform the Caltech community of the Center's development in the past, Goldberger faulted "less than adequate communication among all the players."

Vogt emphasized that the administration acts on its own decisions, not on faculty vote, but must have the confidence of the faculty to be successful.

In the future, the administration will keep the community informed of the progress of the Center at Faculty meetings and through the *Tech*.

Also questioned was the extent of Caltech's affiliation with the Center. Vogt stressed that the facility is entirely separate from the campus and therefore will not significantly affect the campus environment.

The addition of at most 50 employees to the 5,000 already at JPL will be unnoticeable. Forty more staff will be drawn from JPL's other divisions.

Concern over security was dismissed by the administration, which pointed out that JPL is already engaged in some classified work and is currently improving its security measures. Also, over 100 faculty members have sufficient clearance.

This began a series of questions focusing on Caltech's control of work done at the Center. Vogt assured students that the administration and a faculty committee will control the work undertaken by the Center and can veto any project the Army suggests.

One student asked whether the student body would have any say in the operation of the Center while it is associated with Caltech. Goldberger said that there are no such plans.

Finally, concern was raised on whether any army personnel would be stationed at the Center. Goldberger said they would have "visitor" status only.



President Goldberger and Provost Vogt answer student's questions about the Arroyo Center.

Photos by Roger Fong and Michael Chwe

McEliece IEEE Fellow

Caltech News Bureau

Robert J. McEliece, professor of electrical engineering at Caltech, has been elected a Fellow of the board of directors of the Institute of Electrical and Electronics Engineers. This distinction is reserved each year for a limited number of individuals who have shown outstanding achievements in the field of electronics, or electrical or computer engineering. In honoring Dr. McEliece, the board cited his major "contributions to information and coding theory research and applications."

Dr. McEliece joined the Caltech engineering faculty in 1982, after four years as Research Professor of Mathematics at the University of Illinois. From 1970 to 1978, he was supervisor of the infor-

mation processing group at the Jet Propulsion Laboratory in Pasadena, where he now serves as consultant in optical and secure communication and data base design. In 1977, his book *The Theory of Information and Coding* was nominated by the IEEE Information Theory Group as the best publication of the year. He is a member of the Planetary Society and the American Mathematical Society, and also serves on the board of directors for the Caltech Y.

McEliece earned his BS in mathematics at Caltech in 1964, and completed his PhD studies at the Institute in 1967, on a three-year National Science Foundation Fellowship award. He is currently serving as the president of the IEEE, for the new year 1984-1985.

letters

Apache: Sexism or Sexuality?

To the Editors:

In response to the letter, "Thinking About Women", which was published in January 28th's *Tech*, the upperclass women of Ricketts House got together and discussed sexism. Here are some of our views:

Sexism is prejudice on the basis of sex particularly where this puts restrictions on a person's options. There may be a problem with sexism on this campus, but the examples cited in last week's letter are the least important and least damaging forms that sexism can take.

Apache is a costume dance; the attitudes, actions and dress

are not representative of everyday life in Ricketts House. Attendees know that the women are no more "cheap" than the men are "tough". Since all actions are voluntary and the participants are secure in their standing with each other, no one need feel threatened when attending Apache.

Even pornography, while it certainly can be sexist, should not be condemned out of hand. Pornography and the appreciation are common forms of expression of sexuality, and are not necessarily sexism. Our pornographic library exists for the enjoyment of all those who care to take advantage of it. This is a large enough fraction of the men and women in Ricketts House, for us to justify the expenditure of house dues.

There is a difference between sexuality and sexism. Sexuality is not forced. We enjoy Apache and the sexuality which is a part of it and our lives in general. We don't feel forced. We would rather that the OWC concentrate on the subtler and more serious forms of sexism, in particular, those that arise from the prevalent

attitude that academically and professionally women can't perform as well as men.

Finally, if we may liberally interpret from the previous letter that the author is deeply disturbed not so much by sexism but by the sexual pressure which is unfortunately usually a consequence of the ratio at Caltech, we can only offer a little hope: in Ricketts House we have never known the pressure to be as severe as "Put out or get out", and usually the situation improves as people come to accept you as a person rather than as a "freshman woman".

-Cindy Mors
Brenda Roder
Janet Saylor
Janet Tamada
Minami Yoda

Caltech Can Fool Those Generals

To the Editors:

The installation of the non-violent war simulation facility at the Arroyo is a furtive opportunity to greatly increase the Caltech community's role in determining American military policy.

Murph can be trusted to exercise his sound judgement and considerable access to privileged knowledge to work towards reducing the possibility of nuclear war, thus diminishing the power of those who gain by threatening us.

We have here a chance to determine the content of that training by enticing him to play what amounts to a very challenging video game, written according to our (Caltech scientists') rules. Subliminally, maybe even consciously, the warrior can be conditioned to perceive armed conflict as a no-win situation through the use of appropriate software and exciting graphic displays. Remember, this center will be used by the top military elite, and a war is always started from the top down.

By occupying the generals' time and thoughts with this entertainment, we will be diverting their attention away from the real world of living beings while allowing them to continue their track in a very realistic, "James Bond" environment.

I would like to point out that in the Center, people will only be talking about war, not waging it. It is fallacious logic for those opposed to the

Center to equate conjecture with action, and only physical action kills people. I would much rather observe the resolution of conflicts through competitive simulation and occasional desert warfare than experience nuclear war.

(Name withheld by request)

Caltech's Commitments

To the Editors:

As an alumnus (B.S. 1969) who no longer lives on campus, or even in Pasadena, I was not aware of the "Arroyo Center" controversy until recently, so I would be ill-advised to comment on issues where I don't know all the facts.

But there is one fact I am sure of. Caltech's reputation is not built on "keeping commitments" which were made verbally and without consultation with or consent of all the parties involved.

Caltech's (and JPL's) reputation is built on one simple fact: you're the best there is. And you always will be. Unless you keep too many unwise commitments.

Sincerely,
-Daniel D. Villani, Ph.D.

Correction:

In last issue's letter from Michael Lewy ["Questions for Caltech"], the *Tech* misprinted a quote from Provost Vogt. The quote should have read, "Caltech does deliver on its commitments and Caltech does not welch."

Religion is Inappropriate

To the Editors:

As a rule I am very proud of my association with the Caltech Y and the fine work it has done and continues to do on campus. However, recently an event has taken place which has shaken my feelings.

I am referring to the lecture entitled "The History of Women in Science" which was given on Feb. 1. The subject does not bother me at all; it would be a disservice to slight the contributions which women have made to this field. I feel that it is an excellent idea to make a presentation of this sort, as people should be informed of the achievements of women in a traditionally male-dominated society.

continued on page 4

PAINTING BY GREG SUSCA

CALTECH PAINTER WISHES TO DO SIDE WORK. SPRAY, BRUSH OR ROLL, COMMERCIAL, HOUSES, APARTMENT BUILDINGS, LACQUER CABINETS, NEW WORK OR OLD WORK, INSIDE OR OUTSIDE. NO JOB TOO BIG OR SMALL. FREE ADVICE WITH EVERY FREE ESTIMATE. SPECIAL RATES FOR ALL CALTECH EMPLOYEES AND ASSOCIATES.

HOME PHONE: 248-5646

The Caltech Y Fly-by

Friday... February 10

Noon Concert - Rasta Rock on the Quad with Caribe. Come on out and enjoy the sunshine.

Right Brain Lab - Only two more sessions! Develop your creativity from 3:00 to 5:30 pm in the Y Workroom. Everyone welcome.

L.A. Philharmonic sign-ups for February 15th performance - Tchaikovsky: Symphony No. 6 and Prokofiev. Experience some culture.

Ski Trip February 17th through 20th. Sign-ups in the Y office.

Saturday... February 11

Bryan Green, noted Anglican lecturer and author, presents "Can you count on God in a computer age?" in Winnett Lounge at 10:30 am. Co-sponsored by the CCF.

Wednesday... February 15

Noon Update - An informal discussion of "The 1983 Surge of an Alaskan Glacier," featuring Dr. Barclay Kamb. Presented in Clubroom 1 - Upstairs Winnett. Bring a lunch.

For more information please call the Y at 356-6163

Cinematech
The 3rd Man 7:30
Lady from Shanghai 9:30
with: Sisyphus and the Killing of an Egg
Saturday Evening in Baxter Lecture Hall
Students, \$1 All Others, \$2

THE ASCIT MOVIE
TONIGHT at 7:30 and 10:00

AN AMERICAN WEREWOLF IN LONDON

in Baxter Lecture Hall
50¢ ASCIT members \$1 all others

Volume 85 Number 17
Friday, February 10, 1984

Published weekly except during examination and vacation periods by the Associated Students of the California Institute of Technology, Inc. The opinions expressed herein are strictly those of the authors and do not necessarily reflect those of the editors.

Letters and announcements are welcome. Included with all contributions should be the author's name and phone number and the intended date of publication. The editor reserves the right to abridge letters, so please keep them concise.

Turn in copy to the *Tech* office mailbox, room 107 Winnett. The deadline for copy is Wednesday evening at 8:00 pm. Late copy may not be printed unless previous arrangements have been made with the editor.

Editors in Chief... Ken Hahn
Chris Meisl
Ken Whang

Sports Editor... Stewart Peebles
Reporters... Jim Hamrick,
Sonny Lee, Stewart Peebles, Behzad Sadeghi, Biff Yamazaki

The Gadfly... Lily Wu
The Inside World... Bob Bolender (Ri), Bill Callahan (Da), Lisa Cummings (Pa), Rodney Kinney (Bl), Rod Van Meter (Li), Chris Mihos (Ru), Ed Zanelli (Fl)

Production... Bena Currin,
Ron Pekar, Nick Smith, George Stecher, Yosufi Tyebkhan

Business Managers... Joseph Lee
Peter Lim
Circulation Managers... Steve Baxter
Paul Gillespie

The offices of the *California Tech* are located in Winnett Center on the Caltech campus.

Editor: Room 115 356-6153
Business Manager: Room 107 356-6154
Production: Room 115 356-6153

The California Tech, 107-51
Caltech, Pasadena, CA 91125
Printed by News-Type Service, Glendale, California.

Subscriptions should be directed to the attention of the circulation manager.
\$6.00 per year (three terms)
\$100.00 per life ISSN 0008-1582



Canada's Bear of Beers is here!

Down from the North Woods of Canada comes Grizzly Beer. Not just another Canadian beer, but a rare breed of brew. An authentic Canadian lager—naturally aged, so it's remarkably smooth. With a flavor no other Canadian beer can stand up to. The bear of beers is here!



CANADA'S BEAR OF BEERS
Imported by Van Munching & Co., Inc., New York, N.Y.

Notes

Budget Meeting

ASCIT's annual budget meeting will be Thursday, February 16 at 7:30 pm in the Millikan Board Room. All groups desiring ASCIT funding in FY 84 should submit a budget to Paul Filmer, 1-53 by Monday, February 13. It is also recommended that each group send a representative to the meeting.

The Faculty-Student Conference

is two weeks from tomorrow, and will be open to all students.

Appointed Offices

Nominations for ASCIT appointed offices will open on Monday, February 20.

History or Religion?

from page 2

What did upset me was the presentation. The speaker did not begin with an appropriate introduction to the subject; rather he began with an attack on religion, the story of creation, the scriptures in general, and several highly respected theologians (e.g. Thomas Aquinas) given them a large share of the blame for the problems of women over the years.

letters

While religion has, I must admit, played a role in this matter, this was neither the time nor the place for the speaker to get up on a soap box about his personal views on this topic. The title of the lecture was "The History of Women in Science" and not "Crimes Committed by Religion Against Women." The Caltech Y, the OWC, and the Society of Women Engineers gave the speaker the privilege of being able to speak to a large group of people. I feel that he abused this privilege by using it as an opportunity to publicly air his thoughts on religion in general.

Not only did his unnecessary comments offend me, but I was also sorry that the speaker lost so much of his credibility while discussing such a truly important subject. Nor is it just his position which angered me—I would think it just as inappropriate for another speaker to start off a supposedly secular lecture with an evangelical pitch.

In summary, I must show my disapproval of the speaker for twisting the subject matter of his talk.

Brian G. R. Treco
G-1 Chemistry
Member, Caltech Y Excomm

NAACP Celebrates

To the Editors:

The first black American undergraduate to enter Caltech as a frosh and graduate did not do so until 1969. Black Americans have been represented only sporadically among our graduates and on our faculty.

I write to cordially invite the Caltech community to the 75th Anniversary Celebration

of the NAACP. It will be held in the Pasadena Convention Center on Sunday, February 12th, from 1:00 until 3:30 pm.

The keynote speaker is the former General Counsel of the NAACP, the Honourable Nathaniel Jones of the U.S. Court of Appeals in the Sixth Circuit.

-Ned Munger

A Generation Ago —

From the January 10, 1963 issue of the *Tech*

Reason Women Lack Told To Curious Tech

A question which appears periodically about Tech is why there are no women in the undergraduate student body and why the school has no plan or provisions to admit them in the future.

What most students do not realize is that the Institute actually considered admitting women undergraduates several years ago and at that time did a considerable amount of research on the subject. The major sources for this study were the MIT records, which MIT opened completely to Tech for the research they were conducting. MIT was chosen because it is probably the most comparable school to Caltech in the United States.

An Mrs. Degree?

The study revealed that a large percentage of women who received their undergraduate degrees got married soon afterwards and did not pursue a career related to their degrees. In view of the fact that a large majority of technical education is subsidized by outside sources, such as endowments, gifts, govern-

ment contracts, etc., it was felt that this money was wasted in the case of a person who did not pursue a technical career after receiving this education. Because of the large proportion of women who did "waste" their education and these resources, it was felt that it would be wiser to restrict enrollment to Caltech to men, who almost invariably pursue their technical careers.

Two other points were also considered in the decision. One of these is related to the economic reason given above and considers that a woman who gets a degree and doesn't use it is depriving a man, who would use it, of the opportunity to use this education. The other reason took into account the ratio of women to men at MIT, and found that if women were admitted there would be only about ten or so in the undergraduate student body. This would mean new housing requirements, and considerable changes in school policies, facilities, and expenses which would not be worthwhile for the small number of women.

The same study showed that women in graduate work generally used their education in pursuit of careers, and it was decided to continue admitting them into graduate school.



RESOURCES

Our resources begin with a history of firsts in engineering microelectronics breakthroughs. We achieved this by providing our engineers with a dynamic working environment, surrounding them with inventive minds and advanced equipment, and giving them the green light to express their creative insights.

OBJECTIVES

Our consistent goal is to market a tradition of innovation in advancing state-of-the-art microelectronics, and to anticipate the needs of our customers. We achieve our objectives by cultivating the finest minds in our industry and rewarding their contributions.

NEW COLLEGE GRADUATES

The vision, skills and desire that you bring to Intel will take you far beyond the ordinary in professional life. This is, by far, the most exciting time in high technology, and Intel is creating even more excitement with its emphasis on innovation. If you are graduating with an engineering degree in Electrical, Computer Science, Chemical, Mechanical or a related technical discipline, we offer challenging opportunities, with advancement based on achievement, in Texas, California, Arizona, Oregon and New Mexico.

**INTEL
CAMPUS INTERVIEWS
FEBRUARY 17, 1984**

Meet with our recruiters and learn how you can make the Intel formula work for you. If you are unable to meet with us, please send your resume outlining your career goals in care of "INTEL COLLEGE RELATIONS" to the location of your choice:

- Arizona: 5000 West Williams Field Road, Chandler, AZ 85224;
- California: P.O. Box 3747, Santa Clara, CA 95051;
- New Mexico: 4100 Sara Road, Rio Rancho, NM 87124;
- Oregon: 5200 N.E. Elam Young Parkway, JF1-1-149, Hillsboro, OR 97123;
- Texas: 12675 Research Blvd., Austin, TX 78766.

An Equal Opportunity Employer M/F/H.



God In A Computer Age

by Joe Cheng

"The truth will set you free." You probably have heard that before. But what does it mean? Do you know that it is actually a quote from the Bible (John 8:32). It is indeed ironic that Caltech uses it as a motto. What is the truth? Is it just physics, mathematics, chemistry, and other branches of science? And how can the "truth" set you free?

Perhaps one of the reasons we come to Caltech is to search out the "truth." We seek the "truth" by experiments and scientific theories. New ideas are difficult to accept, because of a firmly established theory. But how can we seek the truth without the courage and integrity to challenge ourselves to explore new ideas? A Caltech education tends to answer the question "how" to seek the "truth" instead of "why?" It

seldom offers insight into our value system and rarely asks about the significance of our existence.

If you have questions about the above issues, you are encouraged and challenged to come to a talk sponsored by the Caltech Y and the Caltech Christian Fellowship. The speaker, Bryan Green, a renowned English lecturer, and author, has dealt extensively with these questions. The title of the talk is: "Can you count on God in a computer age?" Does God exist? And if he does, is He relevant in this scientific age, and more importantly, is God relevant to your life? All these issues will be addressed. So, come to the talk in Winnett Lounge on Saturday, Feb. 11 at 10:30 am. Coffee and donuts will be served 15 minutes before the talk.

And bring a friend!

The Body Shop

Health Advocates

No longer do we feel we need to run to a doctor for every *minor* ailment. We have grown to be more self-sufficient in our health care. Motivated by mutual self-interest in health, we have started to help each other and ourselves to be more responsible for our health care and well being.

This action is being extended through our campus by Health Advocates. Health Advocates are paraprofessionals of the student health center trained in common health care, emergency first aid, health education and communication skills. A one year preparation program is offered through the student health center which is quite diverse in order to respond to human and social health issues. The concepts of primary prevention and informing peers of self-care for illness and injuries comprises the major responsibility of the Health Advocate.

Health Advocates can be called upon by friends, community, campus security, resident associates, etc. for health information, first aid, referrals and counseling. The greatest utilization of the Advocates would be during the weekend when the Health Center is closed. These requests would provide the Advocate the opportunity for continual practice of these skills and training. As we utilize the benefits of the Health Advocate we are relearning the ability to take action on our own.

Thanks to our Health Advocates we will be more informed and more responsible when dealing with our health.

Caltech 1983-84 Health Advocates: Stephen Brown (Ricketts); Erik Fernandez (Page); Hideki Garren (1116 Lura St.); Scott Lewicki (Page); Marc Turner (Blacker).

—Janice Ramaeker
Young Health Center Staff

The Inside World

Blacker: Hello? Am I coming through? This is Blacker House. Does anybody read me? This is Blacker House. We finally had to break down that maniac Fernmeister's door and stifle his Aird House outcries. We found Rodney hog-tied and gagged in the closet. Back to you, Rod.
Hi. We've met the new bosses (hoping we haven't been fooled again), and no windows have been broken playing identity disk or killer trac ball (or have they? I can never tell). Life goes on. Inferior people should not be employed.

—Ben from the monastery

Dabney: No entry.

Fleming: No entry.

Page: No entry.

Lloyd: No entry.

Ricketts: Wow, another midterm bites the dust. Ricketts has once again survived another set of exams and looks forward to the relief of practice Apache this Saturday. Remember, beware the wanted Zot.

—Bob Bolender

Ruddock: The main event this weekend was the party with the Los Angeles Rams' cheerleaders at the Rose Bowl. Thanks go out to the new social team for hiring Van Halen to play.

On Friday night, the house went out for a night of powerful bowling, with the Unbeatable Pteradactyls leading the way. Woosie was the surprise star of the night, managing to knock pins down everytime she bowled.

As far as alley challenges go, the KKK stole Alley Four's win away in charades as Alley Two avenged their previous poker dice loss to the Trojans.

The new Excomm was installed on Tuesday, along with all of the new Rudds. Afterwards, we broke out the champagne and Kitty got a little silly.

Finally, we almost made it through the week without being invaded by high school girls, but they broke through at the last minute. Let's hear it for the new security system.

—Chris Mihos

Inside Information

The Caltech Network of Libraries

Caltech's library system is a network of libraries. It's set up to give you what you need where you need it, and to help steer you to what you need.

The main card catalogs for all the books and journals on campus are in Millikan Savings, one flight up. Each departmental library also has a card catalog of its own books. Journals and their locations are listed in "Serials and Journals in the Caltech Libraries", which is available in every library.

Most of the departmental libraries are open to everyone on campus, including undergrads. Being specialized, they are a great source of indexing and abstracting services for their own fields of interest as well as of books, journals, report collections, maps and computer search services.

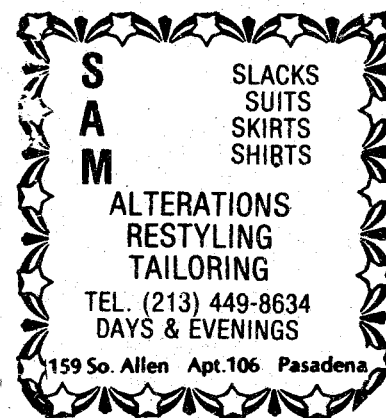
One computer search service is NASA/RECON,

RECON being a shortie for remote console. The first such bibliographic system, it has grown to a powerful way of identifying the sources that you need for your studies, research, report writing, and bibliographies. It will search almost instantly through 13 billion characters of disk-filled data capsules on publications in all areas of space and aeronautics. It also covers beaucoup related fields like computers, fluid mechanics, communications, electronics and the properties of materials: broad coverage, going back to 1964. Because the federal government supports NASA/RECON, it is an inexpensive database for you to use.

Another NASA specialty, one which still is a freebie today, comes by mail in paper copy instead of by way of a computer terminal. This source

is provided to keep you aware of what currently is being published in your fields of interest. You just scan a few short, selected summaries. Called NASA/SCAN, these sheets come biweekly in your choice of one or more of some 200 topics. You can get in on NASA/SCAN by coming to the Aero Library in 101 Guggenheim.

—Jean Anderson



Buy Caltech Cards
and save 20%

CALTECH'S

Buy Caltech Cards
and save 20%

BURGER CONTINENTAL

will offer you a deal you can not refuse.



good food at reasonable prices
refills on soft drinks at all times
seconds on salad bar

SPECIALTIES: SHISH-KABOB, SHAORMA, SOUVLAKI-STEAK
HOMEMADE PASTRIES: BAKLAVA, BURMA, AND NAPOLEONS

For the Entire Month Of February

A Free Root Beer Float to All Freshmen and Sophomores

Faculty, Grad Students, Attend!

Mondays and Tuesdays are Beer Days. Half price on beer.

B. C.: On Lake Avenue
½ Block North of California

WHAT'S

NEW

With the divestiture of the 22 Bell Operating companies and the restructuring of the AT&T organization, questions arise concerning how the change will affect AT&T Bell Laboratories.

Will the ingenuity still be there? Will there still be the creativity, the innovation and the unique development capability that has made AT&T Bell Laboratories one of the nation's foremost technological resources? Yes. So what's new?

A New Name

What was Bell Labs, Bell Laboratories or, sometimes simply 'The Labs,' is now officially AT&T Bell Laboratories. It joins AT&T Technologies, Inc. and AT&T Communications in an impressive corporate family...the new AT&T.

A New Freedom

The new AT&T is free to compete in a variety of markets. AT&T Bell Laboratories' discoveries and designs can now be extended to whatever applications and consequent markets they suggest.

A New Mission

AT&T Bell Laboratories will provide the technology AT&T needs to be a world leader in information systems, services and products. We will pursue a broad spectrum of research in micro-electronics, photonics, digital systems and software to fuel new ventures.

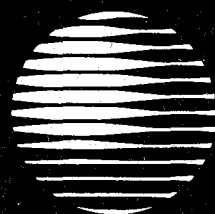
A New Beginning

It is a year of new beginnings. For AT&T and for you. If you are a graduate with a BS, MS or PhD in Electrical or Mechanical Engineering, Computer Science, Mathematics, Operations Research, Chemistry, Physics, or Human Factors Psychology talk to an AT&T Bell Laboratories recruiter.

Check with the Placement Office for the dates we will be on campus.

If you would prefer to write, send a copy of your resume and academic transcripts to:
Director of Technical Employment, Dept. 127/3104/84,
AT&T Bell Laboratories, 150 John F. Kennedy Parkway,
Short Hills, New Jersey 07078

An equal opportunity employer



AT&T
Bell Laboratories

sports

Tech Fencers Finish Season

by Parry Ripost

Last Saturday at home the Caltech fencing team held its final match of its season with Cal State University Northridge (CSUN) and U.C. San Diego (UCSD)

The women's foil team had a very close match with CSUN. They won 8-8 with a tie score because they had a total of three more touches against their opponents. Barbara Turpin used good form and won three bouts. Kathy Sheedy was able to win two and used effective riposts. Phyllis Li won one and did nice lunges, Karla Peterson won two and used good timing. Against UCSD, the women's team lost 10-6. Turpin beat two of her opponents, Li, Sheedy, Peterson and Bonafede all beat one. The women's foil team finished its season with a spectacular record of being in second place in the women's Southern California Intercollegiate Fencing Conference. They made ef-

forts to win, and Coach George Clovis is very pleased with their performance.

The men's foil team lost to CSUN 9-0 and beat UCSD 7-2. This was the first victory of the season for the foil team. Against UCSD, the leading scorer was Scott Grossman, who won all three bouts. He used several of his "Gross" body movements and terrified his opponents. Grossman had good point control and did nice lunges. Craig Keller and Kurt Anderson won two bouts each. Both imitated Grossman, and the strategy worked. The men's foil team did very well in winning this last match of the season.

The men's epee team lost 9-0 and 8-1 to CSUN and UCSD, respectively. James Bell fought bravely and scored touches. He executed nice long lunges and kept good distance. Kenny Bell won a bout against UCSD. He had good parries and controlled the beating of



A woman foiler stands at guard.

Photo by Kieth Nishimi

B-Ball Loses in League

by Ath Man at Large

The Caltech Beaver basketball team continued its league losing streak this week, falling to La Verne and Occidental.

La Verne defeated the Beavers last Saturday, 75-44. Caltech, despite playing poorly in the first half, led for part of the period and was in range at halftime. Turnovers and poor rebounding plagued the Beavers in the second half, and La Verne pulled away to its final margin in a frantically played period. Ed Zanelli scored 23 points and Bill Gustafson grabbed 9 rebounds for the Beavers.

The Beavers played their best game of the year against Occidental, falling to the

Tigers, 87-68 on Wednesday. Stewart Peebles led Caltech with a career-high 28 points. He also grabbed 12 rebounds and dished out five assists. Ed Zanelli scored 19 points and also passed off for five assists. Jim Helgren grabbed eight rebounds before fouling out, and Tom Heer added five rebounds, four assists, and one steal. A pleasant surprise for Caltech was the play of Chris Cotterel, who scored four points, dished off for three assists and played very well inside. The Beavers scored 42 points in the second half, certainly a high for them in league play in a long time.

Caltech's next home game is Wednesday night at 8 pm against Claremont.

Fri.	2-10	12 noon	Swimming	Diving Invitational	Claremont (M/W)
Sat.	2-11	10:00 am	Swimming	Pomona-Pitzer	Pomona (M/W)
Sat.	2-11	10:00 am	Wrestling	SCIAC Tournament	Caltech
Sat.	2-11	10:30 am	Women's Tennis	Whittier	Whittier
Sat.	2-11	12 noon	Baseball	Pac. Coast Bap. Bible	Caltech (2)
Sat.	2-11	1:30 pm	Men's Tennis	Azusa Pacific	Caltech
Sat.	2-11	6:00 pm	Basketball (JV)	Whittier	Whittier
Sat.	2-11	8:00 pm	Basketball (Varsity)	Whittier	Whittier
Sun.	2-12	1:00 pm	Women's Soccer	De Feet	La Salle
Mon.	2-13	1:00 pm	Golf	Pomona-Pitzer	CIT-Annandale
Tue.	2-14	3:00 pm	Baseball	L.A. Baptist	Caltech
Tue.	2-14	3:00 pm	Men's Tennis	Whittier	Caltech
Wed.	2-15	2:30 pm	Women's Tennis	P.C.C.	Caltech
Wed.	2-15	6:00 pm	Basketball (JV)	Claremont-Mudd	Caltech
Wed.	2-15	8:00 pm	Basketball (Varsity)	Claremont-Mudd	Caltech
Wed.	2-15	9:45 pm	Hockey Club	U.C.I. #2	U.C.I. #2
Fri.	2-17	7:30 pm	Basketball (Varsity)	Pac. Coast Baptist Bible	P.C.B.B. College
Sat.	2-18	10:00 am	Swimming	Redlands	Caltech (M/W)
Sat.	2-18	12 noon	Baseball	U.C.S.D.	U.C.S.D. (2)
Sat.	2-18	1:30 pm	Men's Tennis	Redlands	Redlands
Sat.	2-18	8:00 pm	Basketball (Varsity)	LIFE College	LIFE College

his opponents' blades. Charles Todd and Mark Purtill also made some fine moves. They scored touches by doing feints and disengages. Throughout the season, the men's epee team had made a good effort to win matches.

The men's saber team lost to CSUN 8-1 and beat UCSD 5-4. Against CSUN, Chien-Wei Han did running fleches against one opponent and was able to win a bout by one touch. Against UCSD, Lee Sunderlin made striking moves and won two bouts. He made clean parries, riposts, and cuts. Chien-Wei Han won all three bouts by again making running attacks. It seemed that most of his opponents can't handle his legs. Scott Lewicki tried hard to score and drove many opposing fencers to the end of the fencing strip. He had good lunges and made some cuts. The saber team finishes its season in fourth place in the men's Southern California Intercollegiate Fencing Conference.

The Caltech fencing team would like to thank Coach George Clovis for making this fencing season possible. He did an excellent job of coaching the team and helped the women's foil team attain 2nd place and the men's saber team 4th place in their leagues. The fencing team would also like to thank those people who came out and watched the matches during the past two weeks.

Baseball Team Bats Off

by Doug Oute

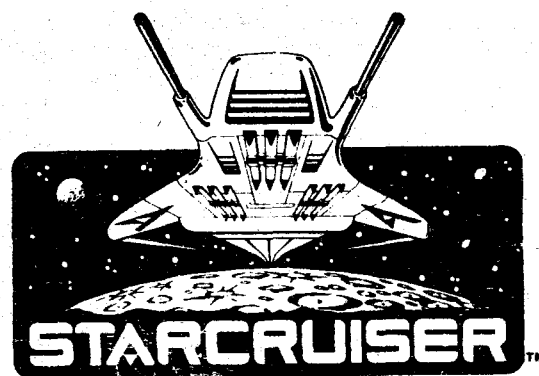
Last Saturday, Caltech opened the season by taking on a tough Pomona-Pitzer team in a double header. The Beavers played aggressively, but were overwhelmed by Pomona's superior offense, losing 20-6 and 11-6.

All was fairly quiet in the first game until the fifth inning, when Caltech rallied and scored three runs on a double by Kurt Lemke, and an error by Pomona. With the Beavers down 5-4, Pomona came to bat in the bottom of the fifth, and broke the game open, scoring seven runs. Caltech never recovered, and eventually lost 20-6 despite Kurt Lemke's two hits and three at-bats, and Pat Harrison's towering home run and three RBI's.

Caltech got off to a fast

start in the second game, scoring two runs in the top of the first inning on Ed Casey's Clutch single. Not to be outdone, Pomona countered with a grand slam and one more to make it 5-2 after one inning of play. Pomona piled up six more runs, and led 11-3 until the fifth inning, when Jim Hamrick sent one over the fence to make it 11-5. Caltech was in the process of making an amazing comeback in the top of the sixth when the game was called due to darkness.

The Beavers' next opponent will be Pacific Coast Baptist Bible College. The game will be played on Saturday at Caltech, starting at noon. PCBBC and Caltech are well matched, so it should be an interesting double header.



STARCRUISER™

The newest and most popular electronic video games Gyuss, Starwars, and Dragon's Lair

Bring this Ad with you for Six Free Game Tokens

(expires 2/29/84)

STARCRUISER™

1252 E. Colorado Blvd (corner of Colorado and Chester) One coupon per customer

TINA & MICHAEL HAIR DESIGN

For Men and Women

Haircuts, Perms, Color Manicures, Pedicures

20% Off to Caltech community

By Appointment Only Tuesday through Saturday

991 E. Green St., Pasadena CA
Parking on 108 S. Catalina
793-2243 or 449-4436

announcements

Dabney Chamber Music

Flutist Leonard Fenton and pianist Elma Schonbach will perform in Dabney Hall Lounge on Sunday, Feb. 19 at 3:30 pm. This concert is the fourth in the Dabney Lounge Chamber Music Series.

Contemporary, as well as classical, works will be played. The program will include traditional favorites, such as Bach's Sonata in G minor and Schubert's Introduction and Variations. Contemporary pieces include Sonatine by Dutilleux, Messaien's "Le Merle Noir" and Piston's Sonata.

Admission to this concert is free of charge and no tickets are required. For further information, call 356-4652.

Special Exhibit In Baxter Gallery

A special exhibition and sale of original Oriental, European, and American art will be held Monday through Wednesday, February 13, 14, and 15, at Baxter Art Gallery.

A representative from Marson Galleries, Ltd., of Baltimore, Maryland, will be on hand to answer questions about the collection of etchings, woodcuts, serigraphs, and paintings that will be on display.

Jury's Irish Cabaret

Jury's Irish Cabaret of Dublin brings Irish dancers, traditional Irish music and the stories of old Ireland to Beckman Auditorium, Friday, Feb. 17 at 8 pm. This ensemble is made up of thirty singers, dancers and comedians.

Highlighted in the show are traditional Irish fiddlers, Uilleann pipes, banjos, harpists, dancers and an Irish tenor. A special feature of the show is its Seannachai or story-teller. With humor and drama, the Seannachai relates sagas of heroes, kings and magic.

Jury's Irish Cabaret was formed in 1964 and has performed since then at Jury's Hotel in Dublin. The children in the show are from the late Proinsias O'Ceallaigh's Irish Children's Choir. In addition to performing with Jury's Irish Cabaret, they are regular performers on radio, television and the concert circuit of Ireland. Other young members of the cast come from the Inis Ealga Dancers.

Tickets to this show are priced at \$15.00-13.50-12.00; students receive a \$1 discount. They are available at the Caltech Ticket Office, 332 S. Michigan Ave. For information, call 356-4652.

Science Serving War?

The next biweekly meeting of the Caltech World Affairs Forum will be on Monday, February 13 at 7:30 pm in the Caltech Y lounge, second floor of Winnett Center. The topic of discussion will be "Science in the Service of War," and is intended to focus on ethical considerations and military-related careers. This is a follow-up to the well-attended "Ethics in Military Employment" program held in Baxter lecture hall on the evening of January 18. Some additional interest in this topic from a personal, ethical level has also arisen as a result of the ongoing debate about JPL's Army Analysis Center.

The club business meeting will begin at 7:00, also in the Y lounge. All are encouraged to attend and help make our programs work. Bring your ideas—see you on Monday.

Ski Mammoth

A small group of people are going to Mammoth this weekend and have extra room in their condo. Transportation and lodging will be provided for approximately \$40. Anyone interested should call Mickey Spiegel at x6274 by 3:00 pm today.

Preservation Hall Band

The Preservation Hall Jazz Band will bring New Orleans Jazz to Beckman Auditorium on Saturday, Feb. 18 at 8 pm.

Because much of their music is improvised, members of the band will announce the program from the stage. Their music is not Dixieland; it's the music of turn-of-the-century street parades, saloons and riverboats.

Historic Preservation Hall, located at 726 St. Peter Street in New Orleans, is where the band gets its name. This is where New Orleans jazz is preserved by the men who created it.

Tickets for the Preservation Hall Jazz Band are priced at \$15.00-13.50-12.00; students receive a \$1 discount. They are available at the Caltech Ticket Office, 332 S. Michigan Ave. For information, call 356-4652.

Valentine's Tea

All undergraduates are cordially invited to a belated Valentine's Day tea at the Master's office on Thursday, February 16 from 2:30 to 4:30 pm. Rare treat in store!

Free Tickets

World renowned Malcolm Bilson and Sergiu Luca will present an all-Mozart program on the forte-piano and violin this Sunday, Feb. 12, at 3:30 pm in Beckman Auditorium. This is the fourth event in the 80th Season of the Coleman Chamber Concerts. As for all Coleman concerts, 50 free tickets and 50 discount tickets are available for Caltech students.

Tech Staff Meets Mondays

at 12:15 pm in 127 Baxter. All are Welcome.

CLASSIFIED

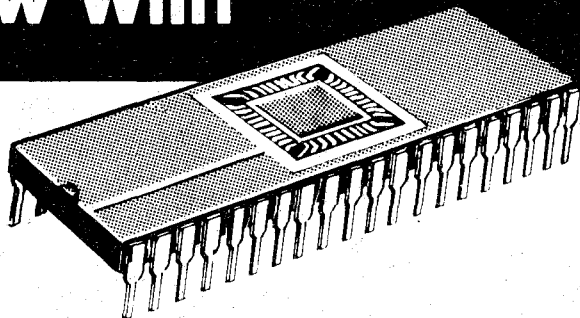
SWIMMING LESSONS Stroke improvement. Individual/Pairs. Ages 3 yrs. to 90+. Your own pool. Margaret at 449-8634.

INSURANCE WAR! Will beat any price, or don't want your business! Sports cars, multi-tickets, good driver disc. Request "Caltech Plan." (213) or (818) 880-4407/4361

APARTMENT OFFERED Quiet apt. offered to share in exchange for helping an active, paralyzed teacher. 1 block west of Caltech w/ own bedroom and bath. Ideal for person who spends most evenings working at home. Reliable, friendly person sought, prefer grad student, non-smoker. Inquire at 449-8928.

4 CHANNEL TAPE DECK (any type) desired for EE/Mu 107 project. Would like to borrow. Call Jim at 577-8407.

Z80 to Z8000 Technology Makes ZILOG The Company To Grow With



Products like the Z80, the world's most popular 8-bit CPU, and the Z8000™, the first 16-bit microprocessor with large-scale computer architecture, make ZILOG a leader. We plan to remain the leader, in LSI and VLSI technology, and in microcomputer systems.

And that means growth. Not just for our company, but for you as a ZILOG engineer. Personal growth in an environment that encourages your fresh ideas. And career growth as we all advance the level of high technology.

**Talk To ZILOG Representatives
At The CALTECH CAREER DAY
Thursday, February 16**

Investigate Opportunities for Graduates in:

**Applied Physics
Chemistry
Materials Science
Computer Science
Electrical Engineering**

Join ZILOG as:

**Product/Test Engineers
Design Enhancement/
Development Engineers
Hardware/Software/
CAD Engineers
Process Engineers**

Zilog
an affiliate of
EXON Corporation

If you are unable to attend the Career Day Thursday, we encourage you to send your resume to **Professional Staffing, Dept. KSCR, ZILOG, Inc., 1315 Dell Avenue, Campbell, CA 95008**. An equal opportunity employer.

ALL YOU CAN EAT DINNER

*Colonel Lee's
Mongolian Bar-B-Q*

1115 Fair Oaks
South Pasadena
799-6176

You can make your selection from four kinds of meat and fish, nine fresh vegetables, and ten different Bar-B-Que sauces. The sliced meat and fresh vegetables are cooked on our special Mongolian grill right in front of your eyes.

THE HAIR CUTTERS

**HIS AND HERS
OPEN EVENINGS.**



449-6967 449-1022

\$3.00 Discount for Caltech students with this Ad

**1009 E COLORADO PASADENA
NEXT TO THE ACADEMY THEATRE
PARKING IN REAR**

**Caltech 107-51
PASADENA, CALIFORNIA 91125**