



Government

# The CALIFORNIA Tech

Is A Monopoly

Volume LXXV

Pasadena, California, Friday, December 7, 1973

Number 11

## Auditions For ASCIT Musical Begin Next Term

by Flora Constanten  
as told to Marc Donner

Auditions for *Kiss Me Kate* are coming up after Christmas vacation. They will be held in Baxter Lecture Hall on Sunday, January 20; Tuesday, January 22; and Saturday, January 26. The weekend sessions will be from 1-5 p.m. while the Tuesday session, out of respect for things like classes and meals, will be held from 7:30-9:30 p.m.

Standard audition procedure permits you to select the music you will sing, but you are required to provide two copies of the music for the benefit of the musician and the director. Since this is a Broadway musical, you ought to audition with a piece of music from a Broadway musical, so the director will have some idea how you'll sound in *Kiss Me Kate*. Music for *Kate* is available from Flora Constanten at x2157  
Continued on Page Three



"NO GILBERT & SULLIVAN this year? You're surely joking!" "Tee-hee!" This is Balfour's photo.

## Do Centiseconds Really Exist?

# Metric Systems Forum Unleashed

by Rich Feldman

In a series of weekly lectures at Caltech, teachers from the Pasadena Unified School District are re-learning the basics of the S.I., or metric system.

Instructor Lee F. Browne emphasizes that the Forum is not a "methods" course. In methods courses teachers learn specific demonstrations to present to their classes. This restricts their creativity, and all too often leads them to proceed without understanding the basic principles they are demonstrating. If a bright student, e.g. a future Techer, asks "why does it work that way?" a teacher may fumble for the next half hour without giving a straight answer. With a little more presence of mind, he may confess ignorance and look up the answer for the next day, by which time the students' interest

has probably been lost.

This unfortunate situation may be prevented by offering teachers "subject-matter" courses, such as the Metric Systems Forum. The subject itself is taught to the teachers, with relatively little consideration given to methods of teaching it in elementary classrooms. They do not learn the details of demonstrations; hopefully with a good general knowledge of the subject they can design their own presentations. The opportunity for creativity on the teachers' part is thus restored, and immediate answers to students' questions are likely to be available.

For the last five weeks Mr. Browne has been presenting various aspects of the Systeme Internationale, from its origin and foundations to the art of

# Crime Wave Continues To Plague Students

## Techers Warned Not To Leave Doors Unlocked

by Karl Kuhlmann

The real world has come to Caltech.

Most Techers know about the wallets and watches stolen during rotation week. The burglaries and thefts have started again. Just before Thanksgiving there was a mysterious fire in Willard (Dabney president) Brown's room; the next day his room was rifled. Some time later, a former member of Dabney House had a large sum of money, a camera, and other possessions taken from the room of a friend. Various other items, including calculators, have since been removed from other Dabney House rooms. A few days ago, a room in Fleming was lifted away.

Several suggestions have been offered about what may be done to bring the problem to an end. Doors should be locked when a room is going to be empty for an extended period. Be suspicious, ask him for his identification. And if something is definitely wrong, get in touch with campus security (50 on the campus phones in an emergency).

Above all, be careful. Lee Chapman, the manager of the security office, has emphasized that building should be relocked after they're entered. The problem will probably vanish eventually, but it will take positive action on the part of everyone.

## Metrically Speaking ...



LEE F. BROWNE lectures during Metric Systems Forum. Photo by Rich Feldman

## Big T Assessment

A \$2.50 charge will appear on most of the account statements [term bills] that undergraduate students will receive at second term registration (January 7, 1974). In accordance with the bylaws change made last month, it will bring the total assessment for *The Big T* through first and second terms to eight dollars (\$8). It is *not* the same charge of \$2.50 that appeared on the term bills sent out a few days ago. Students who have already indicated that they do not want a yearbook should not be charged.

## Beckman / Ramo

# Great New Season on Tab

by Marc Donner

Now that the Autumn Finals are about to fall and Techers have no time for anything but playing pinball, Risk, Diplomacy, bridge and all the other customary amusements designed for whiling away the tedium of Finals week it is time to tell about all the nice diversions the Beckman Ticket Office people have concocted for next year.

On Monday, January 14, fully seven days after our glorious return from Christmas Vacation, Roy Gould will lecture in Beckman Auditorium on current

efforts to duplicate the temperature conditions of the sun without liquifying the laboratory and the surrounding countryside at the same time. This is the *n*th Earnest C. Watson Lecture where *n* has arrived at six. (By the way, the *n*-1st lecture, the fifth, is next Monday, the First Monday of Finals Week. It is entitled, "How Does Chinese Writing Work" and it is conducted by Nicholas Tschoegl) The sun lecture is entitled "To Imitate the Sun" and (of course) it is in Beckman Auditorium at 8 p.m. on the appointed day.

For those who appreciate Classical music there are two major chamber music events for you to think about. The Coleman Chamber Music series continues on January 6 with the Beaux Arts Trio. The trio, composed of Menaham Pressler (piano), Isadore Cohen (violin), and Bernard Greenhouse (cello) will perform works of Beethoven, Ravel, and Schubert. This concert will be at 3:30 p.m. instead of the regular 8 p.m. See Beckman Ticket Office for tickets.

Continued on Page Four

Throop Beat

Conserve Energy: Sleep!

by E. Squirrel Mole

Physical Plant has implemented a crash program to conserve electrical energy, spurred on by the fact that the Insitute's electric bill has become unreasonably large in the past year or so.

With lighting somewhat under control, work has begun on changing ventilation fan speeds. It has been discovered that the power used by fans varies with the square of the speed at which they are running.

Largest User in Pasadena

All the work seems to be paying off. A long term average reduction of power of about 10% has been noted. Since Caltech has been the first large user of power in the Pasadena area to make significant savings.

Getting into the proper spirit of things, some of the Scurves in

Snatch Alley have started a program to save water by flushing toilets less often. See the flyers which appeared mysteriously around campus for further details...

Tramps and Thieves

The on-campus burglary rate has continued to increase, with several more rooms broken into last week. Three of these occurred during one house meal, when almost all of the members of the house were eating.

The only way we have any chance of stopping these thefts is by being suspicious of strangers

Continued on Page Six

Another Punt

The Caltech Spartan/AGA Chapter will meet this Saturday, Dec. 8, for the last meeting of the month. It will take place in Dabney Hall Lounge at 7:30 p.m., and will feature Avalon Hill and Diplomacy games.

The first meeting of next term will be on Saturday, Jan. 5. Again the meeting will be in Dabney Hall at 7:30 p.m., and will be Science Fiction based.

Chandler Xmas Schedule

Table with 2 columns: Date and Time. Saturday, December 15: 10 a.m.-1 p.m. Sunday, December 16: CLOSED. December 17, 18, 19, 20, 21: 7 a.m.-4 p.m. December 22, 23, 24, 25: CLOSED. December 26, 27, 28: 7 a.m.-4 p.m. December 29, 30, 31, January 1: CLOSED. January 2, 3: 7 a.m.-4 p.m. January 5, 6: CLOSED.

THE ASCIT FRIDAY NIGHT MOVIE Saturday

The Candidate

at 7:30 and 9:30 p.m. in Baxter Lecture Hall

Admission: 50¢-ASCIT members and their guests; \$1.00-anyone else

First Week Next Term: Ryan's Daughter

THE CALTECH FORUM

Parent Comments on Nixon Editorials

This refers to your various anti-Nixon articles in the November 2, 1973 issue of The California Tech. I don't know if a parent's views are accepted in the school paper, but on the chance they might be, here goes:

Once a philosopher said: "There is so much good in the worst of us and so much bad in the best of us..." I submit a thought for each of you who are so strongly anti-Nixon.

I could agree for a minimum start that the Nixon actions in recent times represent what appears to me to be: (1) the height of poor judgment in selection of people; (2) a lack of understanding of the vital need for checks and balances within the Executive Branch of government; and (3) a rash of plain stupid decisions.

But tell me, my friends, if he is impeachable for a valid reason: Why hasn't the predominate other (Democratic) party, which controls the House (which is the only unit which can legally bring impeachment charges), brought them? Why hasn't the Senate who can legally impeach him, and is also Democratically controlled, waited for, or requested House investigation of this situation?

opposition party, don't have enough legal evidence? Or are they just playing politics till 1976 to increase their hold on the Congress? Why do they not promptly approve or disapprove the nomination of Ford, a man who has been known personally to members of both Houses for well over two decades.

I don't really know whether Nixon should be impeached or not. However, since he is the elected President of this country, and by law can't run for reelection, I'll back him till his term expires or he is impeached. If, and when his impeachment is ratified by the Senate in a legal manner, I'll withdraw that support and back the Congress.

Looking back over my lifetime of presidents, and holding opinions about them, I find the following:

- 1. I thought Hoover would be a good one. Almost immediately he was condemned probably because he didn't know how to react fast to, and was swamped by, the great depression. In recent years, historians seem to moderate those criticisms. 2. Roosevelt: Was liked by most. I was attracted to him. I'm almost convinced today that he was the worst in my times of all. Many of today's problems seem to have surfaced during his terms. Yet I must admit he did many good things. 3. Truman: I thought had to be the worst of all at the time of his election. At this stage of my life, I think he could be the best of all in my times. Yet he - he alone - got the U.S. military involved in the Far East. Korea? Any relation to our recent

Vietnam problems? 4. Eisenhower; My hero! Not a particularly strong president - not a weak one either. But he seems to have been carried through his term by his laurels in World War II.

5. Kennedy: Real popular appeal. Yet from the beginning I was afraid of the implications of a family dynasty. Although I'm a Catholic, I was more afraid of this family than some of my more concerned Protestant friends.

6. Johnson: The professional politician if there ever was one - even more than Roosevelt and Franklin R. was a master. Well, I suppose we have to have one in office every so often. Not that I'm implying dishonesty, but what president went into the office so personally poor and came out so very wealthy? No one has equalled him, ever, - actually or relatively.

7. Nixon: The proud, driving, one-track mind, professional lawyer, fighting back, like Roosevelt, from defeat. The current man from a political defeat, the earlier one, from health. These types of struggle usually drain a man of something important. Since most of you will live longer than I, you'll find out how history will evaluate him.

If he were eligible to run again I probably would not vote for him. I do not honestly see,

Continued on Page Seven

The CALIFORNIA Tech

Friday, December 7, 1973 Volume LXXV Number 11 Published weekly except during vacation and examination periods by the Associated Students of the California Institute of Technology, Inc. The opinions expressed in all articles herein are strictly those of the authors and do not necessarily reflect those of the editors or of the corporation. All rights reserved.

Editors-in-Chief Gavin D. Claypool Eric H. Eichorn Dennis L. Mallonee Associate Editor Peter W. Beckman Entertainment Editor Marc Donner Features Editor SMC Sweeney Photo Editor Ray Feeny Sports Editor Bob Kieckhefer

Staff David Callaway, JoAnne DeBenedittis, Tim Groat, Patti Horne, Melody Howe, Karl Kuhlmann, Phil Massey, Ryn Miake, Bill O'Meara, Alan Silverstein, Nick Smith, Howard Zebker.

Photographers Todd Boroson, Richard Feldman, Rich Gruner, Gerald Laib, John Middlebrooks, Dave Peisner, Terry Sheehan.

Business Manager Dave Peisner Circulation Manager Rob Olshan

The California Tech Publication Offices: 107 & 115 Winnett Center 105-51, California Institute of Technology, 1201 East California Boulevard, Pasadena, California 91109. Telephone: (213) 795-6811, x2154. Printed by News-Type Service, 1506 Gardena Avenue, Glendale, California. Represented for national advertising purposes by National Educational Advertising Services, Inc. Second class postage paid at Pasadena, California.

Subscriptions \$1.50 per term \$4.00 per year Life Subscription \$100

"FRANKLY SPEAKING" by Phil Frank



"SO, FOR CHRISTMAS YOU WANT A CAREER! COME AROUND DAY AFTER CHRISTMAS AND YOU CAN HAVE MINE!"

## Y's Finals Decompression Chamber Is Back Again

by Tim Groat

It's hard to believe, but not quite everyone and everything is out to cremate you this week. In this mad world of Ph1 and AMa95 there is one last-ditch measure which may help you survive in spite of it all: the Finals Decompression Chamber.

The Caltech YMCA is the creator of this noble crusade to wipe out the scourge of Blue-Book Bends. From its humble beginnings three years ago in the Health Center (psychiatric ward?), they have outgrown several clinics so that they now expect to fill Winnet Lounge on all three nights. If you need a place to punt between 8:30 and 1:30 tonight and every night through Sunday, try the big flick-in at Winnett Lounge.

Inside you can find food, drinks, people (including professors) to have interesting bull sessions with, cards, chess, Risk, and various other games which may be going on. The fun and games aren't just for the poor, doomed undergrads. Faculty and

grad students are welcome to come on over and provide a stabilizing influence.

When that Feynman gets to be a little too much for you, rest assured that you can always save yourself by putting the Red Bible aside in a place of dignity and letting your bubbles pop and unleashing those pent-up emotions. Come and see if you still have any sanity left.

Kahoutek is swinging in right on schedule, but it won't be as bright as was earlier predicted. But even so, it's liable to be the "Comet of the Century" in both visual impact and its affect on current knowledge about comets.

The chairman of the Hale Observatories' Comet Committee, Dr. Guido Munch, has said, "There are many unanswered questions about a comet's composition and dynamics, and we

will be seeking the answers. Because of our improved instrumentation, we expect to see several molecular constituents that haven't been detected before in comets. We also want to learn more about how the comet's molecules are broken down by the sun's heat and how its atoms evaporate as it leaves the vicinity of the sun."

He and Dr. Jesse Greenstein will use the 200-inch Palomar

telescope to study the velocities and composition of the gases in the comet. They will record spectra in the near-IR region. Dr. Greenstein explained, "There must be millions of 10 to 20-mile-in-diameter balls of matter like Kahoutek orbiting the sun every one hundred thousand to a millions years. These nuclei are surrounded by a fog of particles and gases. The comets are only heated for a year or so while they are near the sun, when they develop a tail, and spend virtually all the rest of their lives on the outer fringes of the solar system.

"Almost certainly comets contain water, but all we see is the hydroxyl radical, OH, which is probably a remnant of a water molecule. Apparently the sunlight breaks the comet's stable molecules into radicals, ions, and eventually individual atoms. The atoms evaporate from the comet as it leaves the vicinity of the sun." Greenstein hopes to see water and hydrogen molecules for the first time in a comet, as well as other metals and compounds not seen before. He emphasized, "A great deal depends on whether Kahoutek is a dusty comet. If so, the light from it will mainly be reflected sunlight and will block out our molecules."

### Comet Not So Bright

In recent developments, spectrographs taken just last week on the 200-inch telescope by Dr. Martin Schmidt indicate that the comet is surrounded by gas, with very little dust. However, he added that as a direct result of this, the comet will be less bright than was originally supposed. Dr. Schmidt has been able to determine spectroscopically that the comet is very rich in sodium and

Continued on Page Six

### Musical

Continued from Page One for those who want to audition with it.

The orchestra for the musical is being organized by John Gustafson, 449-9696. Auditions have not yet been scheduled, but interested musicians should call Gustafson. The musical will eagerly welcome anyone from the Caltech Band, and the Chamber Music group, as well as anyone else interested.

The musical is still looking for a choral director, so if you are interested and are competent, call Flora at x2157. This job is a LARGE time sink, as it involves teaching the music to the cast. Other jobs yet to be filled include stage crew, technicians and other workers.

For information and questions about the musical, call Shirley Marneus at x1076 or Flora at x2157.

## It's The Comet Kahoutek!

# Profs Ready for Comet Research

## Join the Peace Corps

# Francophone Africa Needs You

To many college students in our nation the biggest question is how they can use their college education to benefit others without having a Master's or Ph.D. degree. For those freshmen and sophomores interested in math and science, the State University of New York may have the answer.

On the campus of the state university at Brockport there exists a unique program known as the Peace Corps College Degree Program. The program, the only one in the U.S.A., was started at Brockport in 1967, for the purpose of training teachers in the math and science areas to be sent overseas as Peace Corps

volunteers for two years. The first five years were aimed at sending teachers to Latin America but the new emphasis is on Francophone Africa, especially Zaire, the former Belgian Congo. In fact, the program director has just returned from a two year training tour there.

The program, which lasts for 15 months, is geared toward training volunteers who have finished the equivalent of a two year program, 60 credits with enough hours in their math or science major to finish in four semesters. The graduates, who minor in French, Zaire's official language, receive a Bachelor's Degree and provisional New York

State Teacher Certification.

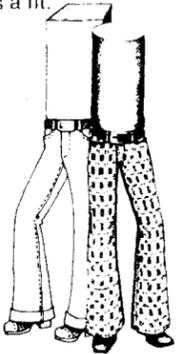
The program begins in June, continues through the fall, spring, and a second summer. During the two summers, the students receive intensive training with special attention given to French, taught by an international staff. During the academic year, the trainees take a full load which includes the French courses taught by Professor Georges Hingot, who lived in Zaire before and after its independence. The French courses involve a total immersion and are designed to give the students a working vocabulary so that they can teach in French by the second summer of training.

During the spring semester the co-directors, Mr. Noble and academic director, Dr. Elaine K. Miller, hope to take the students to schools in French speaking Canada to give them an experience of teaching in a francophone classroom.

Mr. Noble reports that last year's groups has finished its training and is now at schools throughout the Zaire. The present group of 26 will take up their assignments next August. Both Dr. Miller and Mr. Noble stress that there is a serious need for trained teachers, one that the Peace Corps is helping to fill, so if you qualify for this program, write to: Peace Corps; College Degree Program, 112 Hartwell Hall, SUC Brockport, Brockport, New York 14420.

# Levi's for all shapes

We've got you covered. With the world's greatest selection of Levi's. Over 4 tons per store. Levi's for gals. Levi's Sta-Prest pants. And tons more. That's all we carry—Levi's. Can't miss a fit.



the gap

# -LOCH NESS- -MONSTER PUB-

"Scotland in  
Pasadena Old Town"  
66 N. Fair Oaks

Scottish, English, Australian  
and Domestic Beer

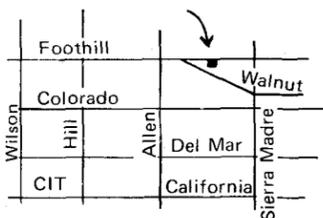
## Dart Boards

Scottish & Irish Entertainment  
on Weekends till 2 a.m.



the  
**backpacker**  
shop

In PASADENA  
2084 E. Foothill Blvd.  
Tel. [213] 796-3749



Come and see the

## NEW CAMP 7 CASCADE PARKA

NEW HOURS

WEEKDAYS 11 a.m. - 9 p.m.  
SATURDAY 9 a.m. - 5 p.m.  
SUNDAY Noon - 5 p.m.



\$47.50

It's HERE!!!

### FOREIGN STUDENTS SHIPPING SPECIALISTS OF

BAGGAGE  
HOUSEHOLD ARTICLES  
COMMERCIAL CARGO

AIR • OCEAN • TRUCK

Pick Up & Delivery  
Packing & Crating  
Insurance Documentation  
Estimates given without obligation  
10% off with Caltech ID

ANYWHERE-ANYTIME  
A REGISTERED AGENCY

**transcargo** a tradition of personal service in freight forwarding  
SINCE 1954

**Martin Lewin Transcargo, Inc.**  
2240 N. Figueroa St.  
Los Angeles, CA 90065  
(213) 225-2347

## at the ICE HOUSE



MUSIC  
and COMEDY

Now Thru Sunday

Steve Gillette

Pee Bee's Variety Store

James Lee Reeves

PASADENA  
24 N. Mentor  
Reservations Phone  
681-9942

Coming Next: Tim Morgon, Dalton & Harris



the  
critical  
ear

**The Angel Album**  
*Angel SBR 3800*

Twenty years ago, almost to this day, Angel Records was born and to help celebrate this anniversary year, they produced a commemorative record set containing some of their best recordings of the past twenty years.

The saga of Angel began when an imaginative Scotsman, representing E.M.I. Limited came to New York in 1952 to find an American distributor for the European record company. He found Dario Soria and the two of them decided that what the company really needed was an American subsidiary.

Thus, the Angel label appeared. During the early years, they relied heavily on the artists booked by E.M.I. such as Elisabeth Schwarzkopf, Herbert von Karajan, Maria Callas, Otto Klemperer, Dietrich Fischer-Dieskau, and many others.

Angel has continued their

expansion almost every year since 1953 and in the past ten years has introduced the low priced Seraphim label and obtained exclusive licensing rights to the Soviet "Melodiya" recordings. Now, the Angel label is known all over the world for its excellence.

The commemorative records are a prime example of this excellence. Purely from a technical standpoint each of the performances of the 26 representative singers, instrumentalists, and orchestras on the two records is a masterpiece by itself. One would be hard pressed to find fault with either of the records.

Angel divided the two record set into four distinct parts - one part per side. The first side is "The Early Years," a collection of monophonic recordings of singers and instrumentalists form the 1950's.

The second side is called "The Great Conductors". While it is

true that the conductors of these selections are famous, the music they conducted on this record was not particularly exciting. The most exciting works were the Coriolan Overture by Beethoven and a portion of Stravinsky's Petrouchka. Heavy music is more difficult to play and more beautiful, but a record such as this that does not contain exciting works such as "The Ride of the Valkyries" becomes a trifle boring.

"The Great Instrumentalists" is the title of the third side and is truly deserving of that name. Among the selections are Beethoven's Sonata No. 8 with Daniel Barenboim at the keyboard and Bach's Double Concerto played by Itzhak Perlman and Pinchas Zukerman.

The highlight of "The Great Singers" on the fourth side is a performance of Bizet's Habanera by Maria Callas.

It should be noted that this two record set is not one of those 'fifty melodies on two records' deals. The performances are complete and represent the finest Angel has produced in the past twenty years. The records are the kind that any collector of fine classical music will treasure for years to come.

-Dave Peisner

**PLAYIN' FAVORITES** by Don McLean, United Artists UA-LA161-F.

**WARNING!** If your previous Continued on Page Seven

**Beckman**

Continued from Page One

The third Dabney Lounge Chamber Music Concert, courtesy of the Faculty Committee on programs, will be the Sunday following the re-opening of school. A group of five musicians from USC will perform music of Couperin, Monteverdi, Schutz and Britten at 8 p.m. in Dabney Lounge, Free.

In the last few days before Finals set in there is one last show. This is the Bayanihan

Philippine Dance company which will be performing in Beckman Auditorium tonight and tomorrow night and tomorrow with a matinee. This is the only appearance of this spectacular dance company in this area after a three year absence. The group features 27 dancers and 12 musicians performing a panoply of Philippine folk dances and legendary tales set to dance. Tickets are \$7-6-5 for the evening performances and \$6-5-4 for the matinee. Student tickets for \$4 in the evening and \$3 for the matinees.

**STUDENTS**  
**\$3.50\***  
**Any Available Seat**  
**DEC 17th THRU DEC 31st**

**ROBERT WHITEHEAD & ROGER STEVENS'**  
**ORIGINAL NEW YORK PRODUCTION**



**BARBARA BEL GEDDES**      **ROBERT LANSING**

in **JEAN KERR'S**  
new romantic comedy

**FINISHING TOUCHES**

directed by  
**JOSEPH ANTHONY**

\* These are reserved seats, for the best available, mail coupon early. Enjoy your vacation in Los Angeles. Verification of student status is needed when mailing order blank. Xerox of student I.D. is acceptable.

**NO PERFORMANCE DECEMBER 25TH**  
**CHANGED TO SUNDAY, DECEMBER 30TH**

**MAIL ORDERS FILLED PROMPTLY**

TICKET ORDER BLANK. Mail orders NOW! Make check payable to Center Theatre Group and indicate first and second choice, stating DATE AND TIME.

| DATE          | TIME | Alternate Date & Time | Price of Ticket   | No. of Tickets | Price |
|---------------|------|-----------------------|-------------------|----------------|-------|
|               |      |                       | \$3.50            |                |       |
|               |      |                       | \$3.50            |                |       |
|               |      |                       | Total Price _____ |                |       |
| Name _____    |      | Phone _____           |                   |                |       |
| Address _____ |      |                       |                   |                |       |
| City _____    |      | State _____           |                   | Zip _____      |       |

Please enclose your check and this order form with self-addressed, stamped envelope, and mail to the Ahmanson Theatre Box Office, 135 North Grand Avenue, Los Angeles, CA. 90012.

CENTER THEATRE GROUP  
**MUSIC CENTER**  
**AHMANSON**  
**THEATRE**  
ROBERT FRYER,  
Managing Director

Tickets also at Box Office  
**SCHEDULE.** Mon.-Thurs. Eves.  
at 8:30 PM  
Fri.-Sat. Eves. at 8:30 PM  
Thurs. Mat. at 2:30 PM  
Sat. Mat. at 2:30 PM  
No performance Sun.

**CAROUSEL** 

"WORLD'S LARGEST? ... No, it just seems like it."  
over 350 on display... over 1000 in stock

**PASADENA'S ONLY AUTHORIZED:**  
**Raleigh | Motobecane | Lambert | Starfire**  
\$89<sup>87</sup><sub>up</sub> | \$87<sup>87</sup><sub>up</sub> | \$129<sup>87</sup><sub>up</sub> | \$79<sup>87</sup><sub>up</sub>

also featuring.....  
• Peugeot • Italvega • Puch Burgmeister • Clubman • Bianchi •  
• Lygie • Gazelle • Triumph • Eagle •

\* COMPLETE PARTS & ACCESSORIES... BICYCLE CLOTHING & TOURING EQUIP.

**EXPERT REPAIR • 17 YEARS EXPERIENCE !!!**

**LAYAWAYS**      **TRADE-INS**      **BANK AMERICARD**

\* FREE ASSEMBLY      \* LIFETIME GUARANTEE  
\* FREE 30 DAY CHECK-UP      \* FREE BIKE BAG

"We will meet ANY BICYCLE PRICE in California"

793-1141 • 1726 EAST COLORADO BLVD., PASADENA • 684-0457  
( 2 BLKS. East of Pasadena City College - Between Allen & Hill )  
**OPEN EVERY NITE TILL 9:15 ... SUNDAYS 11:-5:**

 **\* 10% STUDENT DISCOUNT CARD**  
ON PARTS AND ACCESSORIES.  
**\* ALLOY REAR BIKE RACK**  
WITH BIKE PURCHASE & THIS AD.



# Yule Love The PRICES

ALL-RISK INSURANCE • 5 YEAR WRITTEN GUARANTEE AND SPEAKER TRADE BACK PLAN AVAILABLE

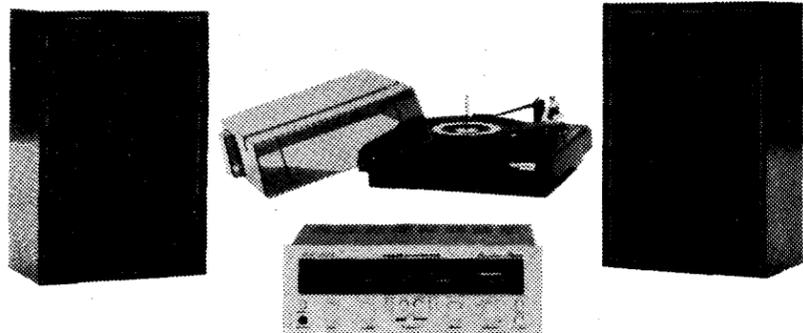


**'The Gift'** MFG'S LIST \$178.50 ONLY **\$109.**

SOUNDESIGN's Model 4357 FM/AM Stereo Multiplex Receiver puts out 40 watts power and is solid state with features found on real expensive receivers. BSR 4800 Automatic Turntable complete with base, dust cover and stereo cartridge. A pair of fine sounding SRL two-way speakers.

marantz.

BSR  
McDONALD



**closeout** MFG'S LIST \$334.75 ONLY **\$199.**

Here's 20 full watts of Marantz power packed into the Model 2010 AM/FM Stereo Receiver that is endowed with all the Marantz high performance features... a pair of Sound Research Lab two-way Speakers can handle the power and a BSR 260 AX Automatic Turntable with base and Shure Cartridge.

COLUMBIA



MAGNETICS

**SOUNDCRAFT**  
**Low Noise**  
**cassettes**  
**C 60 three-pack!**

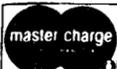
MFG'S LIST \$2.99

ONLY **99¢**

CHRISTMAS LAY-A-WAY'S NOW • RAPID FINANCING

WEST LOS ANGELES: 3378 So. Overland, 839-2216  
NO. HOLLYWOOD: 4858 Vineland, (at Lankershim), 769-3473  
SHERMAN OAKS: 4626 1/2 Van Nuys Blvd., 981-1731  
PASADENA: 123 So. Rosemead, 449-2533  
TORRANCE: 17007 Hawthorne Blvd., 370-8579  
LONG BEACH: 2725 Pacific Coast Hwy, 434-0981  
COSTA MESA: 2490 1/2 Newport Blvd. (714) 642-9531

WESTWOOD: 10956 1/2 Weyburn Ave., 473-6536  
(Parking Validation with Minimum Purchase)



OPEN MON. THRU FRI. 10:30 a.m. to 9:30 p.m. • SAT. and SUN. 10:00 a.m. to 6:30 p.m.



**UNIVERSITY STEREO**

## SILVER SCREENING

The ads for National General's *Executive Action* are interesting enough. Especially intriguing is the ad where the odds of all the material witnesses to the assassination of JFK being dead within four years of the incident are listed. They're 100 quadrillion to one. Suspicious, huh?

Unfortunately, the movie itself doesn't intrigue one as much as the ads do. *Executive Action*, which explores the conspiracy theory of Kennedy's murder, is too neatly packaged. It replaces the very tidy Warren Report with a very tidy Trumbo Report,

leaving no room for audience speculation.

The actors' performances are all a bit melodramatic, at times becoming reminiscent of *The Untouchables*. The wealthy right-wing masterminds of the assassination plot are made just about as cold-blooded as possible, while Oswald is portrayed as innocently as possible.

*Executive Action* is not as well done as it might have been, but it is still entertaining. If you have the gasoline and patience, it is playing in Westwood.



## audience

*Festival Of Light*

by Bob Kieckhefer

"I was just looking over my aisle in the balcony before Beckman Auditorium opened," explained the dazed usher, "when the staff usher asked me to go downstairs. After all possible escape routes had been blocked, I was told, 'Congratulations. You're going to be in the show tonight.'

"The next thing I knew, I was sitting half-naked in front of a mirror and two women were painting me white, fitting me for a beard, and telling me what a good Joseph I would make. I was getting kind of nervous, but luckily the real Joseph finally showed up after I was half painted, so I washed it off and returned to being a friendly, smiling, but still bewildered, Beckman usher."

Every successful show has a few just-before-curtain moments of hysteria, and last weekend's *Festival of Light* was no exception. But once the singing started, the Caltech Glee Clubs' annual celebration of Hanukkah and Christmas proved to be an outstanding audio and visual presentation.

**Hugg & Hugg, Soloists**

After an organ prelude, the program got underway the Glee Clubs, encircling the audience, sang *The Welcome Yule* with Jim Hugg as soloist. For the next hour, the Glee Clubs, or various subsets thereof, sang a delightful assortment of pieces, ranging from Gregorian chants to a West Indian carol, interspersed between readings from a traditional Christmas narrative.

But since everyone expects the Glee Clubs to sound good, perhaps the most striking facet of *Festival of Light* was the visual effects. Soon after the start of the show, a brown

backdrop curtain was pulled aside to reveal five 16-foot tall majestic lighted arches.

**Nepotism Strikes Again**

At appropriate times, stained-glass windows and naked angels (remember, this is an Xmas show) appeared inside the arches. Three tableaux, featuring statue-like students painted white (like our poor usher-almost-turned-Joseph), depicted, during appropriate passages in the narrative, the angel Gabriel coming to Mary, shepherds (and sheep dog) watching their flocks by night, and the manger scene in Bethlehem.

Another spectacular piece of equipment, if not scenery, was a "portable" pipe organ installed along one wall of the auditorium. It provided marvelous accompaniment for the singers, from opening to finale.

**Ring of Synthetic Fire**

The finale was a fitting climax to the show, and quite a tribute to Choral Music Director Olaf Frodsham's ability to produce scenes and sounds so moving that scarcely a dry eye could be found in the auditorium. While expertly singing *Sing We Noel* the Glee Clubs lit candles and marched down from the stage, encircling the audience in a ring of music and light.

Then, to the sound of *O Come All Ye Faithful* they marched slowly back on stage, surrounding the tableau of the manger scene, while the stars shined in the dark blue sky behind the arches. Lastly, they sang an endless round of *Silent Night* until the audience had reluctantly filed out of Beckman, many crying as they went and begging the ushers to let them stay and see more. But, alas, great shows must come to an end.

*Hornets, and Bugs, and Trolls, and ...*

# Car Project Wants Your Bod

by Tim Groat

Anybody who lives in the greater Los Angeles area has to face the sky sooner or later. Like it or not, the air around here is almost unfit for human respiration. But since it isn't likely to get much better until oil reserves are *totally* depleted, it would be imprudent to hold your breath waiting.

A much better plan of attack would be the one adopted by the Caltech Clean Air Car Project. Since their start in 1970, they have been investigating ways of improving the quality of our air. Their efforts have been concentrated on what can be done to correct smog-synthesizing engines in cars that are already on the road. Major areas of research have been in the practical considerations of fleet car conversion and in the fitting of reasonably simple, inexpensive device to older cars.

**CACP is Begotten**

The CACP was the end result of a chain reaction that started with the 1970 MIT to Caltech clean-air car race. The cars that comprised the team, additional personnel, and a bit of hard work made the CACP permanent. Money was extorted from the now-defunct ASCIT research project, EQL, and the Rockefeller foundation.

Soon CACP gathered enough information to begin consultations with businesses, that wanted to determine what fuel system would yield the best economic benefits. They poked data into a stack of punch cards, and assembled a computer program to help optimize the return. Rising in propane and natural gas costs have effectively eliminated the need for this program; fuel savings are too small to justify inconvenience and the cost of the conversion.

**The \$1.49 Smog Device ...**

Meanwhile, it had come to the attention of CACP that removing the vacuum spark advance in an engine makes emissions fall considerably. Since the cost of cutting and plugging a little rubber hose is insignificant, this warranted more investigation. CACP found that this method would substantially reduce exhaust emissions by 40% (at the cost of a tune-up).

Unfortunately, the state of California frowned upon having a non-profit organization with no assets or insurance manufacture a smog-device. Fortunately, somebody who either came to the rescue or saw a way to make piles of money obtained \$2 million of insurance from Lloyd's of London and went into business selling what amounted to a modified golf tee to plug the vacuum hose. All seemed well for the \$1.49 smog device (which really worked) until the state legislature came into the scene.

A big three automaker showed up with "two eight by ten glossy photographs with circles and arrows and a paragraph on the back of each one," explaining how the bad valves in the picture were caused by the VSAD. They

had no other evidence. The legislature got a little apprehensive about making citizens buy a smog device that an automaker said did bad things to cars. Research done by CACP (from the records of auto service centers) showed that any results attributed to VSAD were just as likely to be the result of mechanical neglect. The lawmakers enacted new requirements that made the devices shut down at around 60 mph, which makes them insignificant on the free-ways.

**... And Other Battles**

When they haven't been tangling with the government, the CACP has been tangling with other ME trolls from other places with their own cleaned-up cars. The project's main entry and guinea pig, a Hornet with propane engine conversions, a turbo-charger, VSAD, and a few other tricks, has turned in impressively low emissions in the two Reduced Emissions Device rallies. It failed to win overall due to weakness in other areas in the 1972 competition and a blown transmission did the Hornet in for 1973. Occasionally, other cars get treatments and try to be competitive with devices that can be made for older cars.

Last year, a VW was entered and went for the ride in an inverted position.

Keeping the cars going and evaluating improvements continues in the CACP laboratory/garage. They have an extensive network of emissions testing devices, automotive test equipment, and fueling facilities for natural gas and propane fueled vehicles. The fuel facilities are available to the Tech community, but if you need to buy some fuel from them, make arrangements in advance: the facilities can't handle much beyond car project use.

**Help Wanted (As Usual)**

Like any other student activity that gets publicized in the *Tech* the CACP could use help. Those who are competent amateur auto mechanics or genuine ME trolls are always welcome. You can even accumulate some credit by signing up for ME 100. Those who feel like executives and try to organize things are welcome, too. CACP is helping to organize this year's R.E.D. rally, and is doing most of the money raising. If that doesn't appeal to you, stop by 3 Guggenheim or see the garage out in back (you'll see the car parked outside).

**Fourth?**

## A Good Way to Punt

by George and Ralph

On each hand, the declarer must decide the best way to play his contract. All but a few of the ways of playing most hands can be immediately eliminated. Choosing among the remaining alternatives is often very difficult.

|              |            |             |         |
|--------------|------------|-------------|---------|
| <b>North</b> |            |             |         |
| S            | J 3        |             |         |
| H            | 10 8 7 6 2 |             |         |
| D            | 7          |             |         |
| C            | Q 10 5 4 3 |             |         |
| <b>West</b>  |            | <b>East</b> |         |
| S            | 5 2        | S           | Q 9 8 7 |
| H            | 5 3        | H           | 9 4     |
| D            | J 6 4 3 2  | D           | K Q 5   |
| C            | A K 8 6    | C           | J 9 7 2 |
| <b>South</b> |            |             |         |
| S            | A K 10 6 4 |             |         |
| H            | A K Q J    |             |         |
| D            | A 10 9 8   |             |         |
| C            | -          |             |         |

Bidding:

|              |             |              |             |
|--------------|-------------|--------------|-------------|
| <b>South</b> | <b>West</b> | <b>North</b> | <b>East</b> |
| 2C           | Pass        | 2D*          | Pass        |
| 2S           | Pass        | 3C           | Pass        |
| 3H           | Pass        | 4H           | Pass        |
| 5H           | Pass        | 6H           | Pass        |
| Pass         | Double      | Pass         | Pass        |
| Pass         |             |              |             |

\*Journalist response to artificial

two Club bid.

Opening lead: King of Clubs. The actual contracts ranged from 3H to 4S, however to put more pressure on George, Ralph put him at 6H.

With the King of Clubs led in, George found that there were only two reasonable ways to play the contract. He could either seek to ruff his small spades and diamonds in the dummy, using the A K of Spades and club ruffs for transportation to his hand; or he could try a spade finesse, seeking to set up his spades and ruff only the diamonds in the dummy. George correctly decided that the spade finesse was the stronger play for the contract; for if the finesse goes down, George can make his contract if East has at least three diamonds or West has the Nine of Hearts. The cross-ruff would work only if West has the Nine of Hearts or East has at least four diamonds. (Both methods require a 4-2 or 3-3 spade split.)

As the cards lay in this situation, both methods work. However, George's method will work more often.

**REGAL NOTES**

UNDERSTAND PLAYS, NOVELS AND POEMS  
FASTER WITH OUR NOTES

We're new and we're the biggest! Thousands of topics reviewed for quicker understanding. Our subjects include not only English, but Anthropology, Art, Black Studies, Ecology, Economics, Education, History, Law, Music, Philosophy, Political Science, Psychology, Religion, Science, Sociology and Urban Problems. Send \$2 for your catalog of topics available.

REGAL NOTES  
3160 "O" Street, N.W.  
Washington, D. C. 20007  
Telephone: 202-333-0201

## Kahoutek

Continued from Page Three

carbon, although recent data remain to be studied.

Dr. Munch and Dr. Keith Taylor will use the 60-inch reflector at Palomar in an attempt to measure the velocities of the gases in Kahoutek's tail.

The metals in Kahoutek are of special interest to Dr. George Preston of the Hale staff. He'll be using a special spectrograph attached to the 100-inch telescope at Mount Wilson. Preston has observed such heavy elements

as manganese, calcium, nickel, and copper in Ikeya-Seki comet of 1967. "Our observations probably will begin about New Year's immediately after the comet's closest approach to the sun," Dr. Preston explained. "They must be done in a brief span because the radiation from the metals weakens rapidly as the comet recedes."

Dr. Harold Ziring will be using a new filter on a solar telescope enabling him to look at a broad range of wavelengths and to track the comet even closer to the sun than was possible before.

## Throop Beat

Continued from Page Two

on campus after hours, and questioning people who do not seem to belong here. If there is any doubt, ask for a Caltech ID.

**Bottom of the Week**

The Institute is threatening (again) to crack down on parking violators, and actually start towing cars away, amid rumors that student house funds are being used to maintain the Athenaeum parking lot anyway. It has been pointed out that the parking rules are not enforced equally, i.e. when students park in faculty members' reserved spaces, they

get tickets immediately and phone calls to wake them up to move the offending vehicles, but when students spaces are violated, they are told to find the offender themselves.

A petition calling for the impeachment of Mark Johnson turned up in the Dabney House lounge last week. It seems to have died, but his term ends soon anyway... Questionnaires from ASCIT have been sent to the members of the faculty to determine their feelings about making Ma 2 and Ph 2 non-requirements and/or pass-fail... And the Valkyries are just over the horizon...



**VENUS ADULT THEATRE**  
2226 E. Colorado Blvd. Pasadena  
PASADENA'S EXPERIENCED ADULT THEATRE  
FOR THE DISCRIMINATING ADULT



# X Rated

DAILY 11 am to 2:30 am  
SUNDAY 12 noon to Midnight

AIR CONDITIONED  
for your comfort  
plenty of free parking

**Now Showing:**

## "Guess Who's Coming"

Also playing:

## "Linda Can't Stop"

*A completely new show every Tuesday*

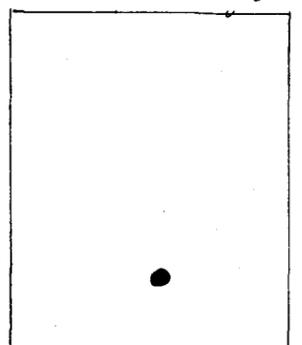
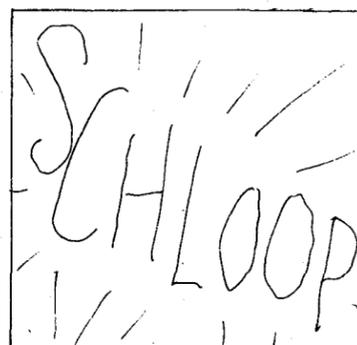
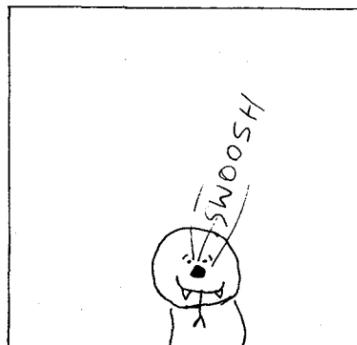
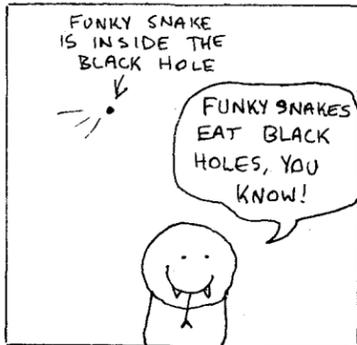
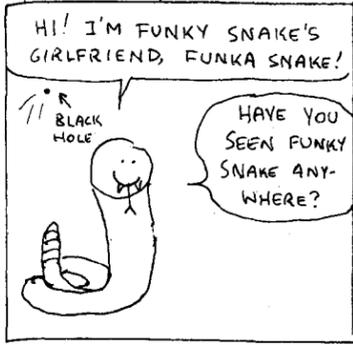
SPECIAL STUDENT DISCOUNTS

2226 E. Colorado Blvd. Pasadena

No One Under 18 Admitted

# The Further Adventures of Funky Snake

by Dick O'Malley



## Construction Projects

### San Pasqual & Throop Plans in Winnett

by Dave Peisner

The removal of the rose garden at the south end of Beckman Mall caused a mild reaction among members of the Caltech community this week. The action was so little publicized beforehand that a gardener apparently trimmed the bushes the day before they were bulldozed out of existence.

To determine why such action was taken, the *Tech* talked to Mr. James Westphall, the campus architect. Westphall stated that the plans for the San Pasqual Development had been on display outside the Board of Trustees Room in Millikan for some time last year. He added that the Board of Trustees approved all of the plans before any work was done.

#### Now Playing Through . . .

In an effort to make the Caltech community more aware of what's going on, he offered to display the San Pasqual and Throop drawings where people would be more likely to notice

them. Consequently, they are on display in Winnett Lounge until December 21.

Concerning the rest of the San Pasqual project, Westphall indicated that the present construction from Chester to the Crellin driveway should be finished by the beginning of January. Some of the landscaping might take

longer, he conceded, since various alternatives for the plan are still being considered. However, he estimated that work would begin in March or April with completion set for the summer. The Sturtevant Iris Garden, planted last May, will eventually return.

The Throop Site plans have

Continued on Page Eight

## Critical Ear

Continued from Page Four

interest in Don McLean was in his vocal abilities or his beautiful songwriting, stay away from this album at all costs. Don't get me wrong about the quality of this album. It is a very good album, it just isn't much of a Don McLean album. It sounds more like "More Music From Deliverance."

*Playin' Favorites* is an album of Don McLean doing just that, with the favorites being chosen from the field of country music. The album includes such songs as "Muleskinner Blues," "Mountains

o' Mourn," "Lovesick Blues," "Old Joe Clark," and even "Happy Trails." If you like mountain music, there are quite a few guest artists on the album to liven up the instrumental work. In fact, except for singing on it, Don McLean had very little to do with this album. All of the songs were written by other writers, most of the music is played by other musicians. I pity the poor, unsuspecting music lover who heard songs like "Vincent" and "Dreidel" and decided to buy this album, thinking it was more of the same. I realize that it is the right of any artist to do whatever he or she wants to do, but it just doesn't seem fair for any recording artist of merit to do something like this. *Playin' Favorites* is plastic copies of Van Gogh's ear, Montoya playing the nose flute, Judy Collins yodeling, Sir Laurence Olivier doing Drano commercials. Maybe it's true that there are enough people around who would buy records of their favorite singers gargling to sell such a record. I'm just sorry that Don McLean had to try and find out.

-Nick Smith

## Forum

Continued from Page Two

however, a valid basis for impeachment, unless that is, he could be impeached for my three criticisms stated earlier. In all sincerity, he has made some substantial international achievements. In fact, I believe, he has almost eliminated the possibility that you men, and my sons, might use their life in another asinine world war. This I do believe. So I think even Nixon has some good points.

Anyway, that's the way I see it.

Sincerely,  
Warner V. Stoughton

## Peisner Complains To Lee Browne

Last Saturday morning, one of the students in our house caught a high school student stealing food from one of the refrigerators in the hallways. Although we had no proof that he was a participant in your program, we strongly suspect that he was.

In the past, students in the program have been caught in the act of vandalism in the Winnett game room and the lounge. One of the members of the administration told me he walked into Throop one Saturday morning and found one of them coming through a transom.

Something has to be done.

I realize that you are doing all you can to keep these kids under control but I would like to suggest something. The biggest problem that the program has is the fact that it is scheduled on Saturday morning—a time when most of the Caltech community is at home. If the classes were held in the afternoon, especially

on a weekday, the problem of supervising the students would be solved.

Of course there would be difficulties, especially those concerning the scheduling of rooms but I feel that the advantages outweigh the disadvantages. Un-supervised outsiders on the campus invite trouble. To avoid it, the rest of the Caltech community should be on the campus when they are.

-Dave Peisner  
Page House

## More Computer Money Wanted

The system of accounting used on the PDP-10 inhibits student use of that machine. It is difficult to get computing money because it is necessary to get a grant from some professor who needs the money for his own students. The only account for student independent research, #98372, began running out in October. As a result, students who are high computer users find themselves reminiscing about their high school days when they had almost unlimited use of some type of computing facility. The usual grant size, \$50, is barely enough for a week's computing (and a rate increase is scheduled for next term). The Institute can easily permit more computer usage, as the PDP-10 now usually runs above 80 or 90 percent idle. It would cost little to put the PDP-10 to work and get a return from the money invested in it. I should not need to point out that Stanford and MIT both have PDP-10's open to unrestricted student use.

I hope that this situation will be reviewed so that the present unworkable system can be replaced.

-Larry Paulson  
Dabney

# DICKS' TRAVEL SERVICE

140 North Lake Avenue - Pasadena

All Travel Arrangements with  
NO SERVICE CHARGE Added

Use your campus telephone - Ext 1474

## DICTIONARIES WEBSTER

Library size 1973 edition, brand new, still in box.

Cost New \$45.00

Will Sell for \$15

Deduce 10% on orders of 6 or more

Make Checks Payable to

DICTIONARY LIQUIDATION

and mail to

c/o The California Tech  
Caltech 105-51

C.O.D. orders enclose 1.00 good will deposit. Pay balance plus C.O.D. shipping on delivery. Be satisfied on inspection or return within 10 days for full refund. No dealers, each volume specifically stamped not for resale.

Please add \$1.25 postage and handling.

# ENGINEERING IS

the professional art of applying science to the optimum conversion of natural resources to the benefit of man."

Stanford School of Engineering's wide-ranging graduate programs offer qualified men and women exciting avenues to rewarding, satisfying, professional careers.

The Stanford School of Engineering is searching for graduate students from among qualified majors in engineering, mathematics, and the sciences.

A representative from the school will be on campus to discuss Stanford's ten engineering departments and interdisciplinary programs, research opportunities, the financial assistance available, and other aspects of engineering at Stanford.

■ Wednesday, Jan. 16

Make arrangements to meet him through

■ Placement Service

SCHOOL OF ENGINEERING  
Stanford University

## MIDDLE EAST RESTAURANT

Aghoian's Dining Room  
1864 N. Allen, Pasadena  
797-2576

10% DISCOUNT  
WITH CALTECH ID

Shish Kebab, Lula Kebab, Basturma, Humus Tabule, Lahmajoun, Kufita, Boreg, Lentil Soup, Yogurt Soup, Home-Made Yogurt, Sarma, Dolma, Baklava, Bourma, Kadaif, Turkish Coffee, Falafel.

Open 11:00-8:30 Mon-Thurs  
11:00-9:30 Fri-Sat  
Closed Sunday and Holidays

Food to Go

# The CALIFORNIA Tech SPORTS



Page Eight

Friday, December 7, 1973

## Tech Stomps UCLA In Ice Hockey; Wins First Games

by Clyde Barrow

The Caltech Ice Hockey Club opened the 1974 season of the Southern California Collegiate Hockey Association by defeating Occidental last Sunday night by a score of 11-3. Inspired by the pugnacious ability of defenseman Bob Gardiner, Caltech outshot Oxy 40-12. The team was led by Prof. Fred Culick and Bill Harris, who scored two goals each.

In exhibition games played in November, Caltech defeated both UCLA and Cal State Northridge by scores of 10-3 and 3-1. Leigh Moys scored 6 goals against UCLA and Bill Harris had two goals against Northridge.

The team returns to its home ice at the West Covina Ice Arena at 11 p.m. Sunday, January 13, against Cal State Northridge after a holiday tournament in Montreal.

## Information Exchange

# Why Not Visit Canada?

by Tom Grimm

If Europe is too far away, and our own country is too close, try Canada this summer.

Go north and you'll find a vast and varied land. Only the Soviet Union surpasses it in geographical size. And few nations can compete with the diversity Canada offers its visitors.

The Calgary Stampede in July, billed as the world's largest rodeo, is unique. There's still gold in the Yukon and you can pan for some during the summer months. Like England, there's a colorful changing-of-the-guard ceremony. It happens every morning at 10 o'clock until September by the Parliament Buildings in Canada's capital, Ottawa. You'll also find the best views of Niagara Falls from the Canadian side.

They are scheduled for completion by March.

The construction company claims that Mudd-Prime will be finished by March. Westphall suggested that May was a more likely date. The addition of a boiler and two cooling towers at Central Plant will be completed by February to supply the new buildings with heating and air-conditioning facilities.

For all of the projects, Westphall emphasized that the amount of rain that falls in the coming months will affect the completion dates. Assuming the winter is not too wet, most of the projects will be completed by June.

## Construction

Continued from Page Seven

been delayed again, this time for technical reasons; the designs for the pumping and filter systems for the ponds have not been finished yet. Meanwhile, a crew has started waterproofing the steam tunnel beneath the area and building the site drainage facilities.

By the beginning of second term, the construction of the hill will be in progress. Work should start on the rest of the site by mid-January and hopefully will be completed by the end of the term.

Elsewhere...

Westphall also commented on the other works in progress. Behavioral Bio will be finished in another two or three weeks, with the exception of the lecture hall and library in the basement.

NOW THRU SUNDAY

## Commander Cody and his Lost Planet Airmen

OZARK MOUNTAIN DAREDEVILS

Coming Next: Dr. Hook and the Medicine Show

DOUG WESTON'S

# Troubadour

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

Pizza making is a professional art, too.  
Come in and taste the results!

# ROMA GARDENS

BEER &amp; WINE

ITALIAN CUISINE

PIZZA

SPAGHETTI

RAVIOLI

## 10% Discount On Food To Go

1076 E. Colorado 449-1948

OPEN 4-12 Daily

4- 1 Fri. &amp; Sat.

1972 The Gap

# Levi's for all tastes

Wild, tame, middle-of-the-road. Over 4 tons of Levi's to choose from. The world's greatest selection under one roof. From Levi's for gals. To Levi's Sta-Prest pants. You'll eat 'em up.



the  
gap

CYHA national office, 1406 West Broadway, Vancouver, B.C.

Also get hold of *Handbook Canada* (Saannes Publications, Toronto, \$1.95), the friendly guide for young vagabonds.

U.S. citizens require no passport, visa or health certificate to enter Canada. Anyone under 18 years old, unaccompanied by an adult, should have a letter from parents or guardian giving permission to travel to Canada.

Border officials want to know your purpose for visiting, your destination, and whether you have enough funds to live and to leave. Don't say you're going to work because that requires permission from the Department of Manpower and Immigration. To avoid extensive questioning never mention you are hitchhiking.

If you dislike thumbing and your wallet permits other modes of transportation, you have a choice. Greyhound buses span the country. If you decide to leave the driving to yourself, your own state license is valid in Canada.

The Canadian National Railway has excellent transcontinental service. They offer reduced fares for U.S. visitors only in winter. Also check into youth fares on planes.

## Classified Ads

### TRAVEL

#### CHARTERS YEAR ROUND

No more club fees! 50 Departures, also NYC, Japan & Australia. Youth Fares, too. Since 1959: ISTC, 323 N. Beverly Dr., Beverly Hills, CA 90210, (213) 275-8180.

EUROPE - ISRAEL - AFRICA Student Flights all year round. CONTACT: ISCA, 11687 San Vicente Blvd. No. 4, Los Angeles, Calif. 90049. Tel: (213) 826-5669 or (714) 287-3010.

Christmas group flights New York, Boston, Montreal, Washington, Philadelphia. Also Tokyo, Europe.

Exits, 9056 Santa Monica Blvd., Los Angeles 90069. (213) 274-8742.

### APARTMENTS

Two bedroom apartment, partially furnished. \$70 per month including utilities. 56 E. Holly 792-7210.

### SERVICES

#### TRANSLATORS

with scientific training required. All languages and disciplines. Free-lance. Send resume to Box 5456, Santa Barbara, Cal. 93108.

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. 2153.

The best way to see our northern neighbor is to take the Trans-Canada Highway that runs nearly 5,000 miles from Victoria, British Columbia, to St. John's, Newfoundland, on the east coast.

Hitchhiking is legal, popular and not expensive [if you don't accept presents from strangers ds]. Thumb from the road shoulder or street curb and the mounties won't bother you. You'll find many thumbers on the Trans-Can and boys outnumber girls four to one.

Carry water on the hot prairie section through Saskatchewan. Don't get stranded in Wawa along Lake Superior; try to get a lift all the way from Thunder Bay to Sault Ste. Marie. For breath-taking beauty, be sure to visit the Canadian Rockies, especially the Banff and Lake Louise areas.

Believe it or not, the Canadian government has helped set up special hostels for vagabonds during the summer months. Charges are 25 cents to \$1 a night if you can pay. Otherwise, accommodation is free. These hostels are spotted across the country; fellow thumbers will tell you where.

Forty other hostels are run by the Canadian Youth Hostel Association. Nightly charges are \$2 to \$3. Get details from the

*We cordially invite  
Caltech  
students and faculty  
members to bank with us.*

Complete banking services including:

- Automobile Financing
- Bank-By-Mail
- Certificate of Deposit
- Checking Accounts
- Collateral Loans
- Drive-In Banking
- Escrows
- Foreign Banking
- Letters of Credit
- Home Modernization Loans
- Life Insurance Loans
- Money Orders
- Night Depository
- Personal Loans
- Real Estate Loans
- Safe Deposit Boxes
- Savings Accounts
- Travelers Checks
- Trust Services
- U. S. Bonds

Auto Banking Center at Colorado and Catalina Office, 1010 East Colorado and Citizens Commercial Trust & Savings Bank of Pasadena, hours: 9 to 4:30 daily; 9 to 6 Fridays

PASADENA  
Head Office: Colorado and Marengo  
Colorado and Catalina Office: 1010 E. Colorado  
LA CANADA  
La Canada Office: Foothill and Beulah

Citizens  
Commercial Trust  
& Savings Bank  
of Pasadena

MEMBER FEDERAL DEPOSIT INSURANCE CORPORATION  
MEMBER FEDERAL RESERVE SYSTEM

Second Class Postage paid at Pasadena, California. The *California Tech* is published weekly except during exams and vacation periods by the Associated Students of the California Institute of Technology, Inc., Winnett Center 105-51, California Institute of Technology, 1201 E. California Blvd., Pasadena, CA 91109. Subscriptions: \$4.00 per year.