

**Peter Beckman  
Gave The Tech**

# The CALIFORNIA Tech

**The Best Ears  
Of His Life**

Volume LXXIV

Pasadena, California, Thursday, April 12, 1973

Number 24

## Bonner Wins Tolman Medal For Contributions

Biologist James Bonner of Caltech, internationally known for his work on how living cells specialize, will be awarded the Richard C. Tolman Medal of the American Chemical Society's Southern California Section.

The medal and citation was presented at a dinner meeting April 11. On that occasion Dr. Bonner will speak on "The Chemical Biologist in the Real World."

According to the citation, Dr. Bonner is being honored for "many contributions to fundamental chemistry, biochemistry and plant physiology... for his outstanding texts in plant biochemistry, and for his efforts... as a stimulating teacher and example to his students..."

### Flip-Flop Genes

Dr. Bonner is a scientist of wide interests. He is concerned with elucidating how genes turn on and off, and how they are switched on by chemicals that induce cancer. He is interested in genetic engineering, population problems and food supplies in developing countries. He spends considerable time as a consultant in Malaysia, helping that country to develop.

Dr. Bonner travels widely as a lecturer and consultant to various government agencies and is active in skiing and alpine organizations. He is the author or co-author of seven books and has published more than 325 technical papers.

In the 12 years the Tolman Medal has been awarded, Dr. Bonner is the third recipient from Caltech. The other two are Dr. Arie J. Haagen-Smit, emeritus professor of bio-organic chemistry and chairman of the California State Air Resources Board; and Dr. Ernest Swift, emeritus professor of analytical chemistry. The award is named for the late Dr. Richard C. Tolman, a distinguished Caltech chemist.

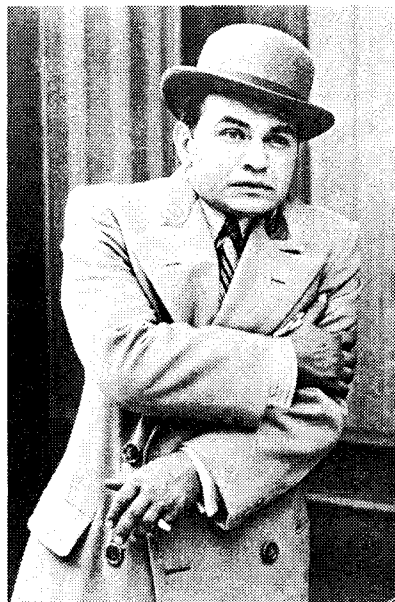
## News Briefs

### The Co-ops Need You!

For all those interested in a place to stay over the summer, or who are interested in the co-op in general, there will be an informal discussion on Sunday, April 15, at 3:00 p.m. at 297 South Holliston. The purpose of this meeting is to entice people into occupying the houses (i.e. paying the rent) over the summer, and furthermore to give people a chance to find out what the co-op is really like. Rent and utilities run between \$40 and \$55 per month, and kitchens are available to save money on food as well.

### Rummage Sale Sunday for Child Development Center

The Child Development Cen-



EDWARD G. ROBINSON, the late veteran film star, is shown at right in his last role as Sol Roth from the MGM movie, *Soylent Green*.

## Beckman On Beckman

### Pharaohs And Particle Physics

by Peter W. Beckman

Physics and archaeology are generally considered two quite distinct fields, but Monday evening in Beckman Auditorium Nobel Laureate Louis Alvarez explained how particle physics is being used to solve the archaeological mystery of Khefren's pyramid.

The Pharaohs of Egypt, fearful of the desecration of their tombs by grave robbers, went to great lengths to assure the sanctity of their graves. Thus, while the pyramids of Cheops and Menkure, Khefren's father and son, contain a maze of deadend passages and chambers to confuse intruders, Khefren's pyramid contains only one easily accessible chamber. On the assumption that the pyramid contains hidden passageways and chambers, Dr. Alvarez set up a pair of spark chambers in the room at the pyramid's base to detect the muons traveling through the structure.

The muons are created when cosmic rays strike the earth's upper atmosphere. They hit the earth at known energies and rates and are absorbed. The solid limestone structure of the pyra-



mid blocks a certain percentage of the the particles and any space in the structure will lower the percentage of particles blocked.

Dr. Alvarez's technique has been successfully tested by using it to detect the extra thickness of the limestone cap at the apex of the pyramid and the exact orientation of the room at the pyramid's base. So far, about

Continued on Page Six

### Fire Sale?

## Tech Office Clearance

If you've missed some of the issues of the *Tech* over the past three-plus years, and for the sake of randomness want to get them, stop by the office in Winnett Center. There is a variety of different issues that will be available for a short time; i.e., until next Tuesday. Talk to one of the editors, preferably Claypool because it's his stupid idea anyway.

Not so stupid is this next offer. Still in the office are a number of copies of the Delbruck and Gell-Mann Nobel Prize

## Faculty Board Adds SS Requirement

by Gavin Claypool

Required "social science" classes form the latest twist in the elusive HSS requirement deliberations, due to action by the Faculty Board last Monday. The Board amended the Curriculum Committee's proposal to include a requirement of 27 units from the following areas: Anthropology, Economics (less Business Economics), Political Science, Psychology, or Social Science.

The amendment, moved by Dr. Robert Huttenback, coupled the 27-unit SS requirement with a reduction of the 54-unit requirement of English (now Literature), History, Philosophy, Music, or Art to 27 units. After discussion, the amendment was passed almost unanimously.

### Which Way, Bus. Ec.?

A subsequent amendment attempted to change the limit of 27 units of business economics to zero. To support his amendment, Dr. Daniel Kevles gave three reasons; first, that the 108 units would be too few to educate a student for education's sake, if vocational courses were allowed to count for credit.

Reserving the 108 for non-vocational courses, there would still be room outside the requirement vocational courses. Finally, if an option felt that a course in business economics or management would be helpful to its students, then that option should allow time for its students to take that course.

The Kevles amendment was defeated by a vote of 5-7. The modified proposal, (which follows) was then passed unanimously.

### Modified HSS Proposal

1. 108 units of credit for courses in the Hss Division.
2. 27 units from courses labeled Literature, History, Philosophy, Music, Art; 27 units from courses labeled Anthropology, Economics (less Business Economics), Political Sciences, Psychology, Social Science.

3. Limit of 27 units from courses in business economics and management.

4. Freshman Humanities requirement (27 units of courses numbered 1-10 in the Division) be retained.

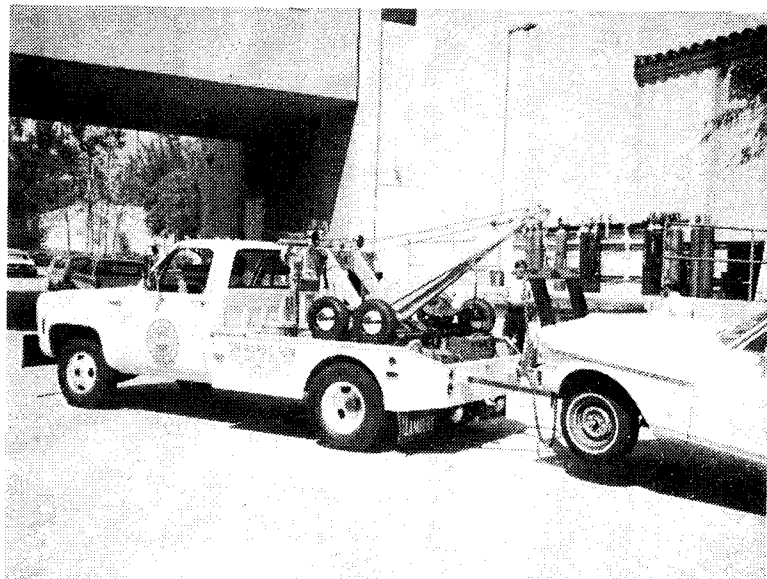
(Also, reading courses will not receive credit toward the requirement, except by petition.)

The modified proposal will go before the faculty for final approval in June.

### As An Added Attraction...

Just before the HSS matter was brought up, the Board voted to approve a semi-infinite list of courses changes and/or renumbering. This proposal also included a blanket change of the "English" label to "Literature"; The latter now covers all former English courses, and some upper-division language courses as well. Ph 102 is now Ph 92, and Ay 20 is a prerequisite for Ay 21 [sorry, frosh]. Action was withheld concerning the suggested reorganizing of Ec 4; otherwise, the HSS renumbering went through on schedule.

## Tow-Away Zone



SPRINGTIME: when a young man's fancy turns to thoughts of love. Pictured: B&G troll (disguised as Sward & Son truck) engages in illicit activity with ASCIT President (disguised as car). See, Mark? We told you you'd be in every issue!

### Charles Gallager to Speak on Japan, Middle East

Mr. Charles Gallager of the AUFS will speak on campus next Monday on "The Role of the Maghreb in Middle Eastern Politics," at 1:00 p.m. in the Africana Library in Baxter. He will also speak Tuesday on "Japan's Political and Economic Problems in Southeast Asia," at

Continued on Page Five

**Superconductors**

**Copper Alloys Lose Heat**

A new class of metallic alloys has been developed by Dr. C.C. Tsuei, research associate in applied physics, that makes possible significant advances in the technological applications of superconductivity.

The alloys are composed of about 90 percent copper, a non-superconductor, and one or two superconducting metals. The copper makes the alloys ductile and pliable. As a result they can be fabricated into useful shapes such as wires, strips, and tubes at a reasonable cost, compared with existing materials, which are expensive to fabricate because they are brittle and very hard.

Up to the present time, the most promising superconducting alloys unfortunately are very hard and brittle compounds completely devoid of ductility and hence very difficult to fabricate in useful shapes such as wires, strips, or tubes at reasonable cost. Another drawback associated with the currently available materials is that they are very poor heat conductors and thus are unsuitable for

engineering applications. At low temperatures a small amount of heat generated in the superconductive system can cause a relatively large temperature rise. The inability to conduct heat away from the "hot spot" can result in a runaway situation and destroy the superconductivity completely. The material with the most suitable mechanical and thermal properties is copper. However, copper is not superconducting.

**Hybrid Strength**

Attempts have been made to improve the poor thermal properties and the brittleness of high-temperature superconductors by manufacturing hybrid materials in which copper and a superconductor are combined by mechanical means or vapor deposition. These are extremely expensive processes for most of the engineering applications.

The shortcomings are likely to be removed soon through the alloys developed by Dr. Tsuei. In a sense, he has found a way to make "copper" superconducting

*Continued on Page Eight*

**ASCIT**

**Quiescent BOD**

by Philip Massey

After a long search for a bottle opener, a longer wait for a quorum to manifest itself, the BOD had its shortest and quietest meeting this year.

There is a new election

**Abject Apology**

In last week's *Tech* under the heading "5 years ago today," the following item appeared: "Nick Smith was still ASCIT Representative-at-Large (he had not been impeached)."

While it is true that Smithnik had not been impeached, it is also true that no such attempt was ever made. I wish to apologize in print to Nick for any misleading impression the above article may have created

*-Dennis Mallonee*

procedure in effect. Henceforth, if there is only one candidate on the ballot for an office he or any write-in candidate must get a majority of the votes to win. (Previously, the write-in candidate needed only 40%.) Furthermore, in a contested race, if the person getting the most votes is beaten by "no" (he was a doctor, once), the candidate is forced into a runoff.

**A New Broom . . .**

The BOD has a new rug to go with its new (old?) office. It's nylon and certified better than government regulation for "moderate traffic." Be that as it may, it is going in the ASCIT office, not on San Pasqual.

The Y wants ASCIT to co-sponsor, perhaps with the GSC, a visit by Peckman Paul. It was agreed that this was Alright, providing it doesn't Cost Overly.

Chicano workers are leading a strike and nationwide boycott against Farah pants. They demand that Farah bargain with them over issues of job security, a living wage and dignidad—the right to be treated as human beings. You can help their struggle by refusing to buy Farah slacks.

Before the strike, Farah Manufacturing Co., one of the largest manufactureres of men's slacks and sportswear in the country, employed 9500 workers in El Paso and other parts of Texas and New Mexico. These workers, 95% Chicano and 85% women, earned \$1.70 an hour or \$3500 per year—below the poverty level for a family of four. They were faced with the constant threat of being fired at the whim of their supervisor, promises of raises and promotions based on unmeetable production quotas, no retirement benefits, and inadequate sickness and maternity insurance. The dignidad of the workers was denied by the rigid supervision of their every moment at work and the paternalistic attitude with which any benefits were administered.

In an effort to gain some control over their working conditions, the workers in the cutting department petitioned the National Labor Relations Board for an election to certify the Amalgamated Clothing Workers as their bargaining agent. Farah responded to the union victory in the election by firing active union members, by forbidding all conversations among workers, and by otherwise illegally attacking the organizing effort. Fed up with this continual harassment, 3000 workers walked off the job in May of 1972. Farah's lawyers

used an archaic Texas law requiring pickers to be at least 50 feet apart in order to have 800 strikers arrested, with bail set at an unheard of \$400 each. The company has also patrolled the picket line with unmuzzled police dogs in an attempt to intimidate the strikers. The strikers also face the difficulty of supporting their families on \$30 a week in strike benefits. In spite of all these obstacles, the workers have persisted in their struggle for over 10 months.

Clearly, the strikers will not be successful without your support since Farah can take advantage of the overabundant supply of cheap labor available in the Southwest. Therefore, the nationwide boycott is crucial—not only to demonstrate sympathy for the workers, but also to supply pressure where Willie Farah feels it most—in his pants pockets. This kind of pressure is demonstrably effective: a \$6 million profit for Farah in 1971 has turned into an \$8.4 million loss in 1972.

Regionally, in the Southwest and in the South as a whole, success of the Farah strike can set an important precedent. That region has an unorganized and therefore exploited working class. The example of a successful organizing effort could touch off a series of similar efforts in that part of the country.

Should industry in the South become unionized, the effects would be felt nationally. As things now stand, a plant in another part of the country which is faced with demands from a more organized working force has the option of simply removing itself to the South, where it can find unorganized,

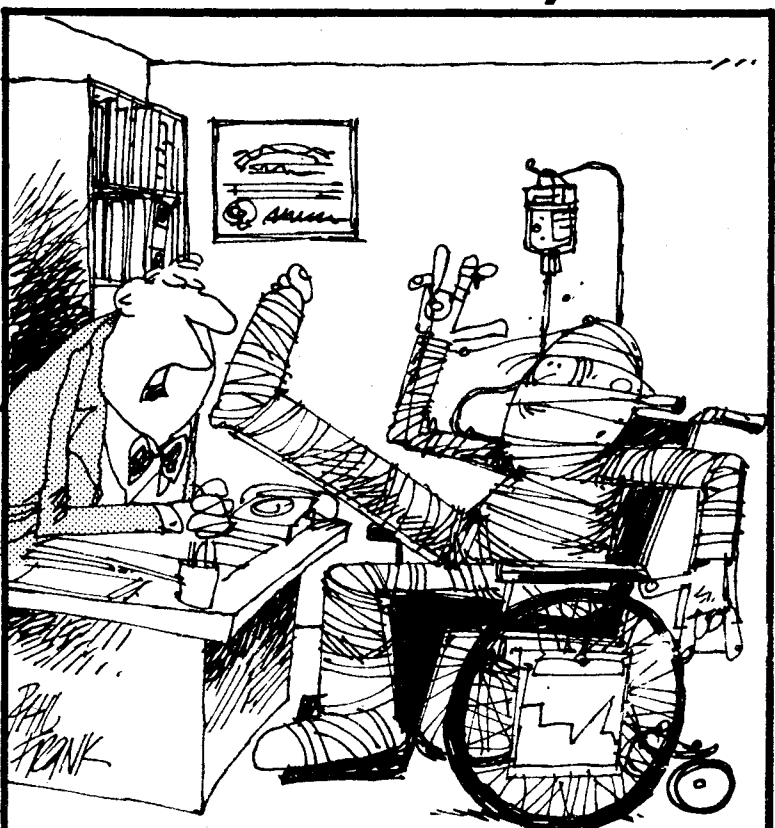
low-paid workers pitted against one another by racial and sexual prejudice. This phenomenon of the runaway plant has been especially prevalent in the clothing industry, depressing wages for northern workers left behind.

La Raza Unida Party, Cesar Chavez, Bishop Metzger of El Paso, and over 25 members of Congress have joined the Farah workers in asking you Please don't buy Farah slacks. Since students are a large part of Farah's market, your cooperation in this can be decisive. To build public awareness and support for the boycott, there will be a demonstration and press conference Saturday, April 21, at the downtown May Company (8th and Hill) starting at noon. In addition, every weekend there is informational picketing at stores which still stock Farah products. For further information or to arrange for speakers, contact the Farah Strike Support Committee at 255-0970 or 257-9284.

*-Rafael Sorkin  
105 E. Bridge*

**FRANKLY SPEAKING**

by Phil Frank



'SEE HERE, EICHORN, IF THIS IS ANOTHER OF YOUR FLUMSY EXCUSES FOR MISSING CLASS...'

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**The CALIFORNIA Tech**

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**THE ASCIT FRIDAY NIGHT MOVIE**

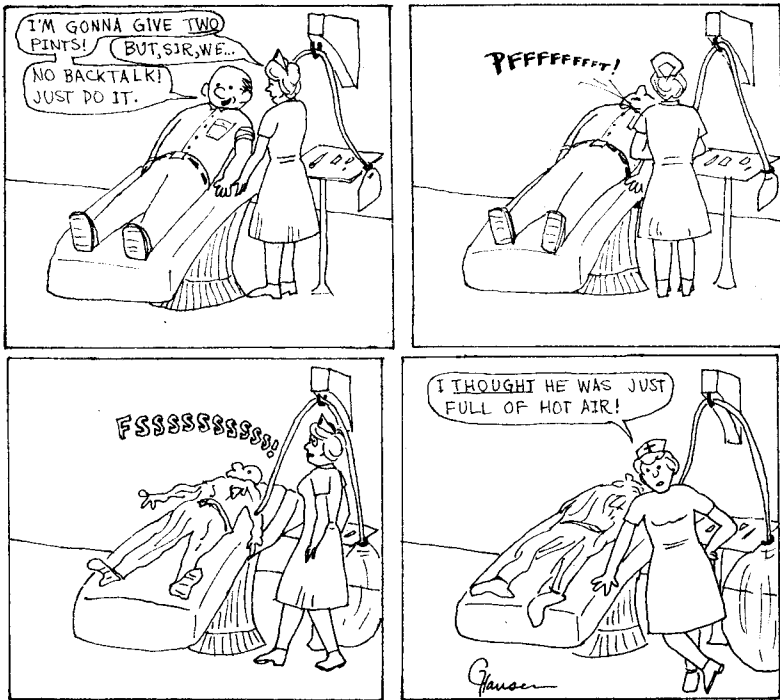
**BUTCH CASSIDY AND THE SUNDANCE KID**

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

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

**NEXT WEEK:**

**HARRY KELLERMAN etc.**



RED CROSS BLOOD DRIVE: FRIDAY APRIL 13, 10:50 a.m. to 3:30 p.m., DABNEY LOUNGE!

### Blood Drive Needs Your Help Now

by Gary Wakai  
It's not too late to sign up to give blood for the Red Cross Blood Drive. However, the actual donation date is tomorrow, so it is imperative that you sign up pronto, if you wish to get it over with quickly.

The blood donation appointments are scheduled for tomorrow from 10:50 a.m. to 3:30 p.m. (in 20 min. intervals) at Dabney Lounge. To get an appointment, contact Gary Wakai (136 Page) or Paul Manis (145 Page). You may even sign up by phone - call Lee Crevier at x2374, or if that fails, call Wakai at 449-8111. Or, you may go directly to the bloodmobile and wait for an opening.

Continued on Page Five



by Gavin Claypool

Equicon, the first major *Star Trek* convention in this area, will be held at the International Hotel near LAX on the weekend of April 20-22. Uncut episodes and many members of the cast and production staff will be present.

The Guest of Honor is Theodore Sturgeon, an outstanding science fiction writer, and author of the episodes "Shore Leave" and "Amok Time." Gene Roddenberry, creator and producer of *Genesis II*, *Questor*, and *Star Trek*, will attend as well as D.C. Fontana, DeForest Kelley, James Doohan, Nichelle Nichols, George Takei, Walter Koenig, and Majel Barrett. Other famous writers attending include Ray

that's  
mr. spock  
on the  
left

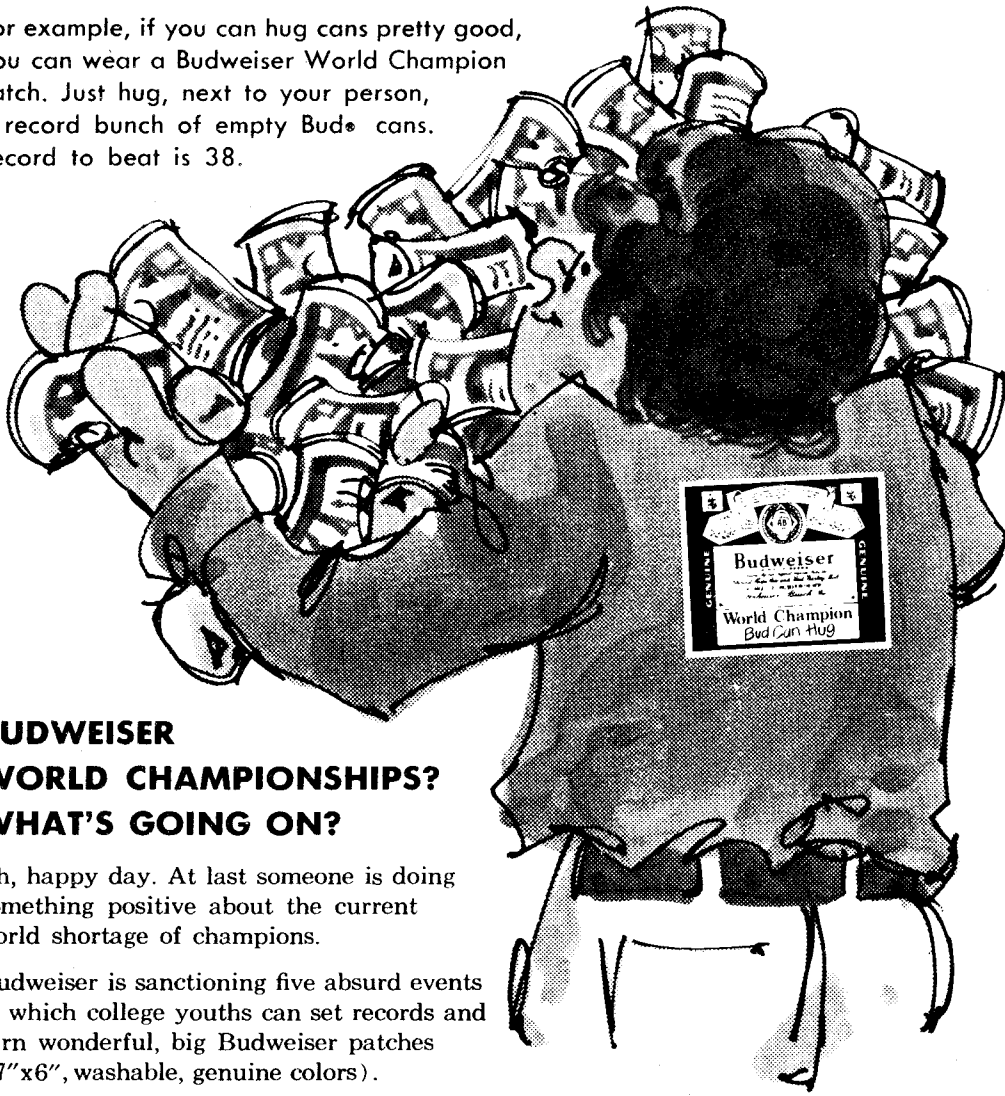
Bradbury, Robert Bloch, Norman Spinrad, David Gerrold, and Margaret Armen.

A varied program of other science fiction favorites will be shown in order to round out the program. Fan seminars, an art show, a masquerade, a fashion show, and souvenir auctions are part of the scheduled activities; a well-stocked sales room will supply the needs of a dozen planets (almost).

Cost for the weekend is \$10 (this does not include a room at the International). Single-day memberships are available for \$5. Supporting (non-attending) memberships are also \$5. Checks should be made payable to: Equicon '73, P.O. Box 3781, Santa Barbara, Calif. 93105.

## TURN THOSE USELESS SKILLS INTO HANDSOME BUDWEISER PATCHES

For example, if you can hug cans pretty good, you can wear a Budweiser World Champion Patch. Just hug, next to your person, a record bunch of empty Bud\* cans. Record to beat is 38.



### BUDWEISER WORLD CHAMPIONSHIPS? WHAT'S GOING ON?

Oh, happy day. At last someone is doing something positive about the current world shortage of champions.

Budweiser is sanctioning five absurd events in which college youths can set records and earn wonderful, big Budweiser patches (7"x6", washable, genuine colors).

Besides the breathtaking BUD-CAN HUG above, there are *four other ways* to be a World Champion. Get details at your favorite beer store where you see the "Budweiser World Championship" display!

Do one, beat the record, *tell us about it on a postcard* and get your marker pen ready for inscribing your particular specialty beneath where it says "World Champion."

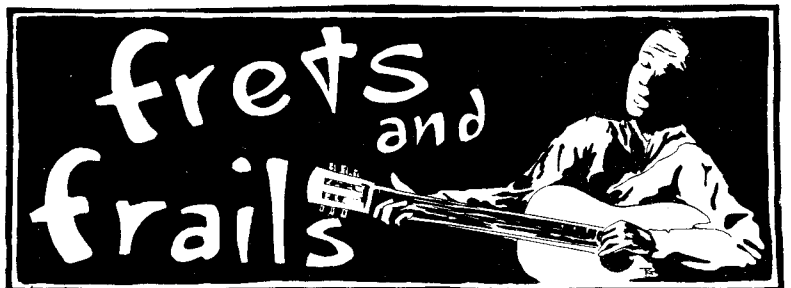
TO GET YOUR BUDWEISER WORLD CHAMPION PATCH (EVEN IF YOU DON'T SET A RECORD), JUST WRITE YOUR NAME, ADDRESS AND WHAT YOU DID ON A POSTCARD.

(Maybe you've detected that this is not an official, rigid-rules "contest." But it is a lot of fun, even if you can't break the records. You can, though, can't you?)



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This week the Ice House presents an excellent billing. The featured act, Belland and Somerville, a "wild and wacky duo," gives an excellent performance of several popular songs. Then their paths diverge. Belland does a very funny dialogue with Somerville, as Somerville sings in the background.

The lead-in people are equally good. Jim Turner starts the show with some good guitar and several good original songs. Bobby Sandler is the second

lead-in, and is billed as a comedian/juggler. He has introduced some interesting variations on the theme, such as how one practices while eating and sleeping. All the juggling is accompanied by a very funny monologue.

The show is excellent, and I highly recommend it. And for all you that are unfamiliar with the Ice House, the prices are very reasonable. The show runs through April 15.

-Karl Kuhlmann

## Literary Magazine Seeks Non-Student Subscriptions

from the CALIFORNIA TECH  
March 2, 1967

Yes, *Totem* is again launching its sexiennial subscription drive. A four-issue subscription to the Caltech community's collection of literary and artistic creations costs as little as it did in 1967: only two dollars. ["But that was good for six issues!" "Oh, shut up."]

Copies of the current issue (*A Winter's Totem*) are still available for sixty cents each. *Totem* is an official publication of ASCIT and is given free to each member.

----- (cut, tear, dismember, or otherwise separate along this line) -----

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*Silver Screening*

# Judge Bean, Sleuth Reviews

If *the Life and Times of Judge Roy Bean* contains a single shred of historic truth I was unable to discern it. To paraphrase the movie's opening blurb, "If this wasn't the way it was, it should have been."

The movie opens with Roy Bean (played by Paul Newman) being mugged and almost murdered by the inhabitants of the only combination brothel-saloon west of the Pecos. He gets his revenge in one of the best shootouts since *The Wild Bunch*, and justifies his actions with the terse comment, "They were bad men, and the whores weren't ladies."

Bean then sets himself up as the only "Law West of the Pecos" with the aid of an outdated lawbook, a posse made

up of bandits-turned-marshalls, and an excellent gallows. The rest of the film chronicles his fictitious career and his battles with the forces of progress and corruption represented by the Lawyer (played by Roddy McDowell), as well as his spiritual love for Lily Langtree and his more earthy love for the Mexican girl, Maria.

Almost every scene of *The Life and Times of Judge Roy Bean* is done tongue-in-cheek, and the film manages to take unfair advantage of every western cliché that ever came out of Hollywood. The bad men are not only evil — they smell, eat raw onions, and shoot horses for breakfast. Every character is formed in high relief, and most

*Sleuth* (now available at the Hastings) is an intricate play on plays. Without giving anything away, praising the tale or condemning it is difficult. Reactions vary little, though the common denominator is contempt. Pauline Kael if the *New Yorker Magazine* degraded Anthony Shaffer's play with "The waste wouldn't be so apparent if Shaffer's situations and dialogue were genuinely clever."

Stanley Kauffman in the *New Republic* said "Some modest cleverness it has, but not enough to justify more than 2½ hours..." Most critics belittled the screen play, but as for myself, I was caught up in the clues, so much so that I found two or three times as many as

of them are outrageous parodies of the stereotypes that peopled every undistinguished western ever made.

Stylistically, *Roy Bean* owes much to *Butch Cassidy and the Sundance Kid*. Both films explore the changing west that made anachronisms of the good guys and bad guys alike. *Butch Cassidy* took fact and made it into legend, while *Roy Bean* goes one step further. It takes legend and turns it into something that supercedes legend.

After viewing *The Life and Times of Judge Roy Bean*, the viewer concludes that it must have been a fun film to make because it sure is a fun film to watch.

—Peter Beckman

Shaffer originally wrote in the play. But then when one goes to such a movie with five other fanatic dopes, competition within the ranks to outdo Michael Caine and Sir Olivier obviates the original movie's worth.

Some of the extra "clues" we found were in faulty cinematography and poor craftsmanship. Sir Lawrence Olivier's overacting and Michael Caine's dismissal of his role keep the action inconsistent, but the search and mystery did keep us from degrading the film till a few hours later. I will not maintain my attention was not held for all of the 2½ hours, but I do think the whole flick would be entirely better if the viewer made sure to sweeten his lemonade with a bit of purple sugar. —Thumper Moore

## More News Briefs

### Prices at the Greasy Reach Stellar Heights

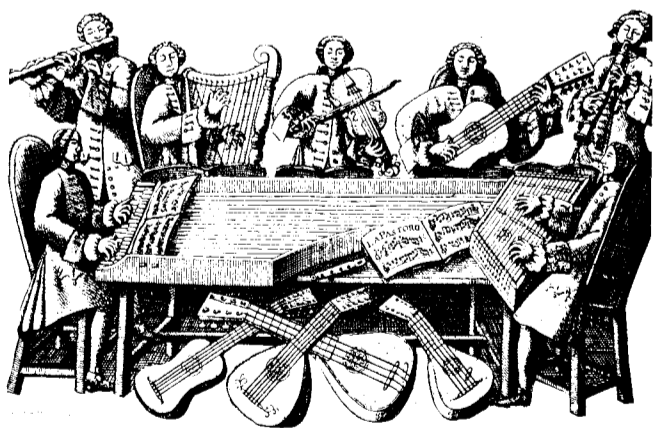
What can you do? Bring your own lunch. Take a friend out to lunch. Picnic on the grass. Take action. All those interested to go further, contact Dan Diner ex. 2251.

### CEAC Meeting Next Week

CEAC will meet next Thursday, April 19, at 7:30 p.m. Campouts for this term and plans for the recycling center will be proposed. Attend if you feel concern for our environment. For the meeting's location, see next week's *Tech*.

## Los Angeles Chamber Orchestra

Neville Marriner, conductor Pepe Romero, guitar soloist



Student rush tickets available for only

**\$1**

with valid Caltech ID beginning at 7:45

**Beckman Auditorium**  
**Saturday, April 14**  
**8 p.m.**

# Nana Mouskouri Wows Beckman

by Etaoin Schroedlu

"If it weren't for Nana Mouskouri, Beckman wouldn't have a program."

Of course, Beckman and Ramo Auditoria put on a number of great events, but the above Techer's comment does serve to indicate the duration and success of the Mouskouri-Tech relationship. And, in their *n*-th performance here at Tech, last Saturday, Nana Mouskouri and the Athenians worked their magic once again, before an enthusiastic capacity crowd.

Miss Mouskouri and her instrumentalists and backups performed a program of the Greek folk songs and ballads for which they became famous, including such famous old Greek songs as *Let It Be*, *Bridge Over Troubled Water*, *Plaisir d'Amour*, and *Amazing Grace*. Other songs included French tunes and Greek tales of Alexander the Great's sister, who inquired of passing sailors for word of her brother,

of ten young men who shook the walls of the taverna with their dancing, and of such things close to life as the wind, the street scenes, and the wilderness.

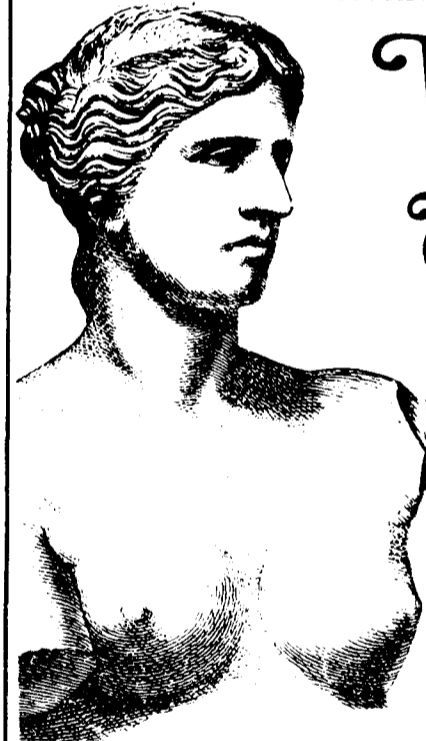
### Let George Do It

The Athenians also had the opportunity to perform a few songs without Miss Mouskouri, and made the most of the chance to show that they, too, are captivating artists, whether type-casting themselves as various feathered species in numbers based on Aristophanes' *The Birds*, or engaging in on-stage banter with the dark guitarist from the Greek highland of Chihuahua, or introducing a song translated from the ancient Greek to modern Greek 'to make it more easier to understand.'

Miss Mouskouri and the Athenians both showed remarkable dramatic range, from the simple and quiet to the almost overpowering, and an ability to bring to life for the audience even the

Continued on Page Six

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**News Briefs**

Continued from Page One

noon in the Africana Library.  
Mr. Gallager has studied the Far East and Islamic cultures for many years, and has served in many different functions in these areas.

**Softball Anyone?**

A softball team is being formed for faculty, staff, and students associated with Caltech or JPL. Those interested in joining should call Charles McMahhan at ex. 1016.

**Red Cross**

Continued from Page Three

Think of what it means to someone who needs the blood—think of what it could mean to you. Share the joy of living—give blood. They've been saying this for years, and it still applies.

For all you potential first-timers, there are many advantages that donating blood will get you. Give a pint and you've opened a blood account with the Red Cross. This entitles you to as much free blood as you have given. Blood is expensive—give now when it won't hurt to give (your body will replace the lost blood when you're healthy).

Now, it's fine to donate blood, but the Red Cross does have certain quality controls. First, you must be between the ages of 18 and 55 (inclusive) and weigh more than 110 pounds. A few diseases will disqualify you, but there aren't too many of them. Ask about them when you apply.

The message remains—the Red Cross wants your blood, people need your blood.



**SNAKE CREEPING DOWN**—is but one of the poetically inspired postures from the 81 movements of Tai Chi Chuan. From this posture the defendant has the advantage over his opponent in being able to move his body back and lower (to avoid blows) while also being able to counter.



.....**SWEEPING A PAIR OF LOTUS**—is deceptive with its tremendous power without being obvious. The angle of approach in this defensive move is totally unsuspected by the opponent and is aimed toward the lower half of his torso. On contact with any surface the foot emits a sharp crackle like a whip.

**"Chinese Yoga"**

**Tai Chi Chuan**

Mr. Dan Lee, a senior research engineer at JPL, will give a lecture with demonstration on Tai Chi Chuan on April 17, at 8 p.m. in Baxter Lecture Hall. Mr. Lee has had six years of concentrated study of Tai Chi Chuan and its self-defense application with numerous masters from China. Active in martial arts all his life, he captured the Welter Weight Golden Gloves Boxing Championship of China in 1948. He also holds a brown belt in Judo, a black belt in Karate, and has senior student standing in Jeet-Kune-Do, the Chinese non-classical martial art founded by Bruce Lee.

The Chinese exercise art of Tai Chi Chuan is derived from a concept of Chinese philosophy meaning the "supreme ultimate fist." It is an exercise system of

activating the body for the development of physical, emotional and mental well-being that produces a feeling of satisfaction and a sense of tranquility which Western exercise does not give. With over fifty million devotees, Tai Chi Chuan is perhaps the most widely practiced art in the world. Most of the statistics are owed to the governments of China and Taiwan, both having incorporated it into their national health and fitness programs.

Tai Chi Chuan is a composition of 81 postures, performed slowly in a smooth and precise sequence with calmness and balance. It is referred to as the Chinese Yoga, "mind in action, meditation in motion."



**Beckman/Ramo**

**Romero At Beckman**

by Marc Donner

Guitarist Pepe Romero will appear with the Los Angeles Chamber Orchestra in the third concert of the *Art of the Guitar* series on Saturday, April 14, in Beckman Auditorium. Neville Marriner, musical director of the orchestra will conduct. Romero will play a short solo group and the Giuliani Concerto for Guitar and Strings in A, Opus 30. The orchestra will also play Vivaldi's Concerto Grosso in G minor, Opus 3 No. 2; Stravinsky's Dumbarton Oaks Concerto, and Tchaikovsky's Serenade for Strings.

*Pirates* will be presented for three days beginning Thursday, April 19 in Ramo Auditorium. The curtain will rise at 8:00 p.m. (note p.m.; the official ticket order form says a.m.). Also note that the purists demand that this production be termed an "operetta" instead of "musical." Everyone knows the poignant story of a young man apprenticed by mistake to a band of pirates and the paradox of his birthday so I won't tell you about it. Official student price is \$2 but perhaps some of the houses will make it a social event.

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# THE FABULOUS ADVENTURES OF THE TECH TRIO BY H. WINK + D. O'MALLEY

PURE IN HEART, WORD+DEED:  
THAT IS CAPTAIN JELLO'S CREED!

CAPTAIN JELLO DISCOVERS  
THE WORLD BELOW...

I HAD HEARD STORIES ABOUT THE STRANGE INHABITANTS OF THE STEAM TUNNELS, BUT HAD NEVER GIVEN THEM CREDENCE— BUT AS I SOUGHT THE WAY TO BRIDGE, I WAS SET UPON BY TROLL-LIKE CREATURES!



AND THEY CAST NO SHADOW! THESE WERE NOT TYPICAL MONSTERS! I FIRED CUBES OF FOOD SERVICE GELATIN— IT HAD NO APPARENT EFFECT!



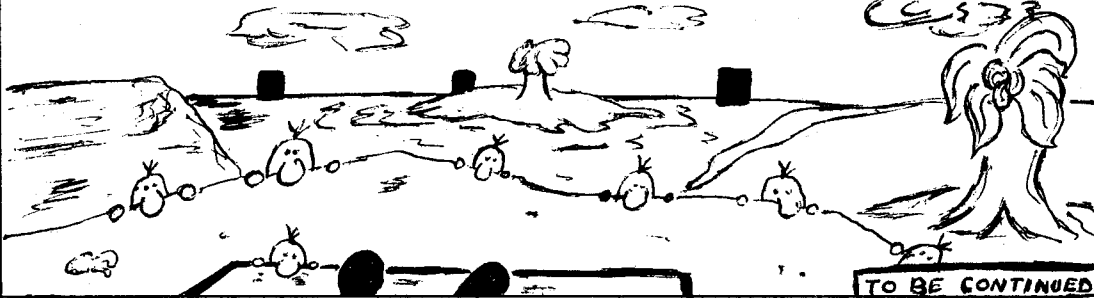
DESPITE MY PROTECTIVE BLUE SUIT, THE LARGER OF THE CREATURES TOOK ME UP AND CAST ME INTO A DEEP, DARK PIT!



I HAVE NO IDEA HOW LONG I FELL— BUT FALL I DID, FOR AN INSTANT OR AN ETERNITY. I WAS UNCONSCIOUS WHEN I LANDED, SAVED FROM DEATH BY THE POWER OF THE BLUE SUIT AND THE GELATIN CUBE I HAD CREATED DURING MY FALL.



AS MY EYES BECAME ACCUSTOMED TO THE SUDDEN LIGHT, I BEHELD A PANORAMA UNLIKE ANY I HAD SEEN BEFORE. AND SLOWLY... EVER SO SLOWLY... I REALIZED I WAS NOT ALONE!



## audience

The Ice House Monday night was the site of an all-too-infrequent appearance by the Clare Fischer quintet. The group plays what is best described as "straight-ahead jazz," and does it in a manner which should find acceptance to nearly any musical ear. Organizationally the group resembles little more than a jam session, but be not deceived; there is a solid cohesiveness here born of individual virtuosity coupled with collective sensitivity.

The visual star of the combo is Fischer's Yamaha EX-42 Organ, a machine with a console resembling the control panel of a spaceship, and with a five-figure price tag. It does little more than most organs in types of effects, but it more than doubles the range of these effects. The most obvious example is the incredible range of decay and reverb available.

Fischer's playing of the instrument is beginning to approach the dynamic potential of the instrument, in contrast to a concert at the Pilgrimage Theater about a year ago. At that time he had mastered the low range; now he is beginning to explore the louds. In fact, one of the strengths of the group is its vast

dynamic range, from pianissimos so soft one must strain to hear, to fortés so loud one can feel them. Fortunately, three *pp*'s outnumber the *ff*'s.

### Masters of Instruments

The real stars of the show were the horn players, two studio musicians of enormous talent. Gary Foster played alto and soprano sax, flute, and alto clarinet, and Pete Christlieb played tenor sax and flute. Both amply demonstrated total technical mastery of all of their instruments. Foster's most impressive outing was "Air on a G String" by Bach, played straight on soprano sax, with only pizzicato bass and sustained organ accompaniment. He soloed ably on all the jazz tunes, most notably "And Miles to Go" on alto clarinet and "Lennie's Pennies" on alto sax.

The highlight of the evening was a solo by Christlieb on tenor

sax on an announced medium-tempo jazz tune in the second set. The solo began modestly in tempo and volume, then built relentlessly to a climax of 32nd notes infused with more controlled tension than this reviewer has ever heard. The applause lasted more than halfway through the next chorus; the magnificence of that solo left Jim Hughart, the bassist, whose task it was to solo next, at a complete loss.

### Responsible Background

Hughart on bass and Larry Bunker on drums rounded out the group. They soloed competently, but more importantly, combined with Fischer to provide a perfect, sensitive, responsive background for Foster's and Christlieb's melodic wizardries.

The only defect in this group, if it be a defect at all, is their failure to progress. Stylistically, this was indistinguishable from their Pilgrimage concert of a year ago. Fischer is a talented composer and arranger, (having written about half the tunes they played), but for some reason has not directed his composing energies toward the advancement of this combo.

Those who were present Monday night heard a memorable example of good jazz played as it should be; those who were not can do no better than to watch for the next appearance of this group.

—Don Simons

## Nana

Continued from Page Four

songs in foreign languages of foreign places and times.

### Mrs. George, Too

The audience, warmly appreciative throughout the concert, joined in the action during the hand-clapping numbers, and refused to let the performers leave the stage until repeated curtain calls and an encore had been forthcoming, and at least a semi-standing ovation had been bestowed upon Miss Mouskouri and the Athenians.

All in all, a swinging night at Beckman Auditorium. And the best part is that if you missed it, you're certain to get another chance soon.

# Julian Bond Visits Tech Tonight

by Eric Eichorn

Today and tomorrow Georgia Legislator Julian Bond will be on campus as part of the Caltech Y's Leaders of America Series.

He will be speaking on the topic "What's Next?" tonight at 7:30 in Ramo Auditorium. Tomorrow at 10:00 a.m. he will be conducting an open discussion with students and faculty in the Y Lounge.

Bond was elected to the Georgia Legislature in 1965, refused seating by that body—ostensibly because of his views on the Vietnam War—in 1966, elected again to fill the empty seat, refused seating again, elected again, and ordered seated by the U.S. Supreme Court.

At the Democratic National Convention in 1968 he successfully challenged the regular Georgia delegation, charging that blacks were not being represented. He won half of the seats for his Georgia Loyal National Democrats.

## Pyramids

Continued from Page One

20% of the pyramid has been surveyed using this method.

If a secret chamber is discovered in the pyramid it may well hold one of the greatest archaeological treasures of all time.



## Return Of Smoody Sports Menu

Thursday, April 12			
1:00 p.m.	Golf	Claremont—Harvey Mudd	Away
3:00 p.m.	Varsity Tennis	Cal State Dominguez Hills	Home
Friday, April 13			
1:30 p.m.	Track	Pomona—Pitzer	Home
Saturday, April 14			
12:01 p.m.	Baseball (doubleheader)	Redlands	Home
1:30 p.m.	Varsity Tennis	Occidental	Away
1:30 p.m.	JV Tennis	Occidental	Home
Monday, April 16			
1:00 p.m.	Golf	Occidental	Away
Tuesday, April 17			
3:00 p.m.	Baseball	Occidental	Home
3:00 p.m.	Tennis	Pasadena College	Away

a paid political announcement

We the undersigned students of the California Institute of Technology endorse the candidacy of

## Dr. Robert Oliver

for the office of City Director. Further we encourage the Caltech community to exercise this opportunity to voice their opinion in our local affairs by voting this April 17th.

Mark Richard Johnson  
Bryan C. Jack  
Gavin D. Claypool  
Eric H. Eichorn  
John S. Denker  
Frank Hobbs  
Norris Krueger Jr.  
Richard L. Baker  
Douglas B. McElroy

Todd A. Boroson  
Bruce A. Reznick  
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Robert Coleman  
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**Breaks Mile Record**

# Kleinsasser Does It Again!

For the third time this season, Al Kleinsasser broke the mile record in Caltech's dual meet against Cal Lutheran last Saturday. Kleinsasser, running his usual solo race, lowered his month-old mark to 4:12.5. The Beavers were defeated in the dual competition 87-56.

Kleinsasser ran his first lap in 61.4 while opening up a twenty-yard lead. The quarter mile times, in addition to the first lap, were 63.3 and 63.4 and 64.4 and his margin of victory was more than 100 yards. The Beaver middle distance star was also the victor in the 880. Running by himself after 100 yards, Kleinsasser finished in a time of 1:56.4. The double victory highlighted an outstanding day for Kleinsasser, who finished the

afternoon by running a 51.5 anchor leg on the Beaver mile relay team.

**A.D. Who?**

Complete with his fan club of Techers, friends, and cousins, plus spoeting his Lee Evans hairstyle, Haywood Robinson was the team's other two-event winner. Robinson opened the day with a fast opening leg on the 440 relay team and finished with a fine leg on the mile relay team. In between he won the 100 yard dash in 10.0, and the 220 in 22.6. Considering the condition of the track, Robinson's times are remarkable. In style, Robinson is proving to be Caltech's A.D. Davis.

Greg Griffin had another excellent afternoon. He placed

third in the mile with a personal best of 4:29.6. Griffin has established two personal records in this event this year. He also competed in the 3 mile race and won with a time of 15:02.8. Running against only one other competitor, Griffin was forced to run by himself after 100 yards, winning by 660 yards over the Cal Lutheran entrant.

The Beaver relay teams had a difficult day, losing both the 440 and mile relays. The baton passing in the quarter-mile event left something to be desired and resulted in a time of 44.1. The team was made up of Robinson, Hoit, Steubs, and Almquist. The mile relay team finished with a 3:31.8 mark and was made up of Almquist, Robinson, Hoit, and Kleinsasser.

**Good Running**

Charlie Almquist led all competitors across the finish line in the 120 yard high hurdles with a mark of 16.3. Almquist finished second in the 440 intermediate hurdles and also ran in both relays and the 100 yard dash. Greg Hoit won the intermediate hurdles with a slow time of 59.9. Hoit, who was running a strong race until he hit a hurdle and almost fell, also competed in the 440 yard dash, finishing second in a fine time of 52.4. Hoit, who had a busy day running three quarter-mile and in the 440 relay, continues to show improvement each week. John Steubs, who competed in the 440 dash, registered his fastest time of the year.

Caltech had a strong day on the track, winning all but the 440 and the two relays. Lack of depth hurts the team in the final point standing of each meet. Cal Lutheran has a strong field event squad, but the Tech squad did as well as predicted.

**Not-So-Good Fielding**

A surprise for the Beavers was the sweep of the discus. Led by Doug Herbert with a throw of 134'3", the team scored all nine points in the event. Brent Sweitzer finished second with 124'11" and Steve Bienz was third with a throw of 116'4". Sweitzer placed second in the shot put with a mark of 44'2" and Herbert was third in the same event with a put of 43'1". The only other Beaver to place in the field events was John Steubs in the long jump with a mark of 19'8". Lack of depth led to Cal Lutheran outscoring the Beavers 49-14 in the field events while on the track the Techers outscored their opponents 42-38.

This week the action moves to Friday afternoon with Caltech meeting Pomona on the Beaver's track. The first field event begins at 1:30 and the first track event at 2:15. The meet should be another excellent showcase for the Beaver team.

**Classified Ads**

**HELP WANTED**

Group Worker. Part-time position for graduate student or faculty member in Jewish organization. For interview contact Howard Charish, ACSW, (213) 444-4584, 686-0631.

Summer positions as Counselors and directors at Jewish Day Camps in San Gabriel Valley June 18 through August 17. For interview contact Howard Charish, ACSW, (213) 444-4584, 686-0631.

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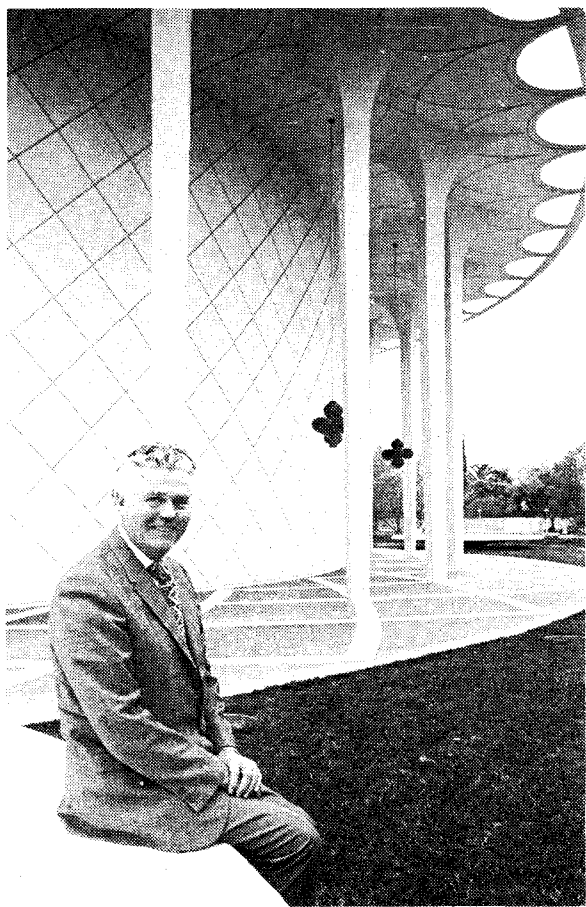
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Bob Oliver is an Associate Professor of Economics at Caltech, a member of the Caltech Y Board, and chairman of the program committee for Beckman Aud.

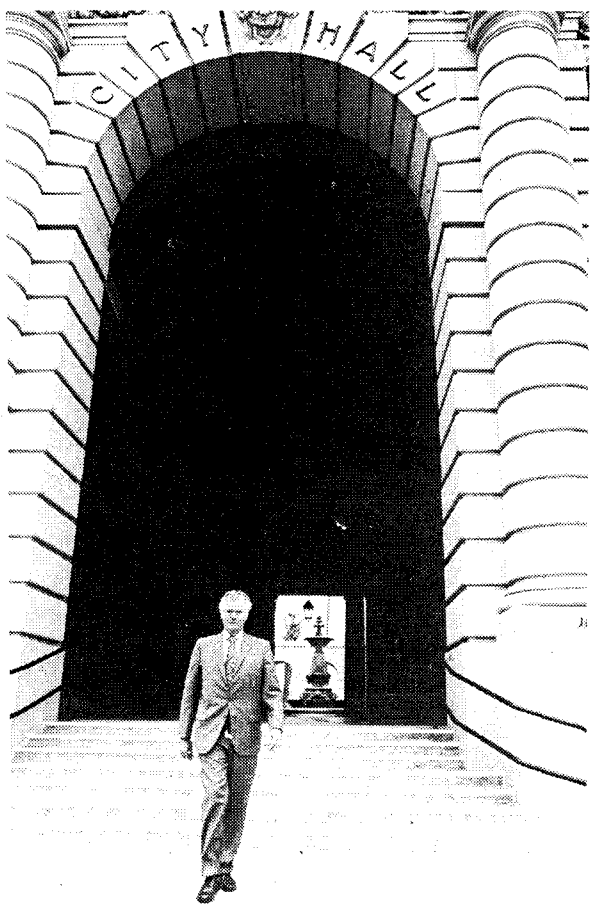


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**Vote for  
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April 17  
for City Director  
from District 5  
Pasadena**

**A "Grade A" Candidate**

Bob Oliver served Pasadena as a City Director, 1965-1969.



Any Techer registered to vote in Pasadena who voted in last November's election can vote for Bob Oliver on April 17. Polling place is at 101 S. Hill Ave.



## Discobolus Trophy Completes Rotation

by Bob Kieckhefer

In marked contrast to the two-house domination of Discobolus competition in 1971-72, the trophy has visited the mantle-pieces of all seven houses this year. The houses are currently so well matched that no house has successfully defended the trophy since the third weekend of second term.

Not all of the highlights have been on the athletic fields. In legal maneuvering not seen since May, 1972 (remember the Dowsett Plan?), Ricketts' defeat of Blacker in volleyball was disallowed because it occurred during the last five days of first term. And when five houses forgot to challenge the Scurses, Fleming recaptured the trophy on the first weekend of second term, having lost it to Ricketts in the previous legitimate contest.

The Flems defeated Blacker and Lloyd before losing to Page in table tennis. Then, following a two-week rain delay, Dabney beat Page in softball. In succeeding weeks Ruddock, Ricketts, Blacker, and Lloyd have won the trophy.

The results of the second and third-term contests are:

Fleming def. Ricketts (volleyball)  
 Fleming def. Blacker (softball)  
 Fleming def. Lloyd (handball)  
 Page def. Fleming (table tennis)  
 Dabney def. Page (softball)  
 Ruddock def. Dabney (volleyball)  
 Ricketts def. Ruddock (soccer)  
 Blacker def. Ricketts (softball)  
 Lloyd def. Blacker (football)

The current challenging order and point totals are: Lloyd (5), Fleming (20), Page (20), Dabney (6), Ruddock (6), Ricketts (8), Blacker (6).

## Beavers Split Doubleheader

by Ray Spears

CIT and the Lighthouse Institute for Foursquare Evangelism Bible College won one game each of a doubleheader played Saturday afternoon at plush (carpeted restrooms) Quigley Field in Commerce. Led by the strong hitting of Bob Pleva, Tech put in a fine showing in both games, winning the first 12-6 on 12 hits and being edged 11-10 in the nightcap.

The first game started slowly with Pleva and John Dilles attempting unsuccessfully to confound LIFE by stealing home and second on two errors by LIFErs, but both were tagged out. LIFE was somewhat more successful at stealing bases and Tech was behind 1-0 when John Ellis, Rick Mitchell, and Tom Howell started a rally of walks and steals in the third inning. Pleva drove in a run from second, Howell stole home, and Tony Durazo hit a sacrifice fly to left field to bring home Pleva. LIFE recovered from this setback, but was not able to come back when Pleva drove in two of three runs in the fourth inning on a double to right, and Howell brought two more home with a triple in the fifth. Other RBI's were credited to Dilles, Phil Gschwend, Ellis, and Mitchell. The winning pitcher was Gschwend.

### Seminar for P.E. Credit?

The second game started out well with a confusing glimpse into the fine print of baseball's rule book. Bob Stanley, the Tech third baseman, caught a fly ball

## Superconductivity

Continued from Page Two

while retaining its ideal mechanical and thermal properties. He found that by adding only 5 percent niobium and 1.5 percent tin to copper and applying appropriate thermal and mechanical treatments he could form "copper" wires that have essentially the same mechanical and thermal properties as that of pure copper except that it is superconducting.

Up to about 60°k, the alloy superconducts, which is about the same as for one of the most common high-temperature superconductors composed of three niobium atoms to one of tin. This compound, however, has a thermal conductivity about one thousandth that of copper and is extremely brittle.

### In Your Very Own Home . . .

These new alloys were prepared by a conventional metallurgical method of melting the

in the second inning with runners on first and second and one out, but intentionally dropped it to force a double play. The umpire trotted out an "intentional drop" rule similar to the infield-fly rule, called the batter out, and held a seminar on the spot.

The Evangelists became imbued with the Word in the big inning, and the Word was hot doggedness as they ruthlessly knocked five hits past the Techers for a five-run third inning. Tech recovered in the sixth when their pitcher cracked up and was stricken from the book of LIFE, but lost it again in the seventh due to what seemed to be carelessness. Coach Preisler noted after the game that their

Caltech 003 351 0—12 11 2  
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appropriate amounts of copper, niobium, and tin together to form an ingot. The ingot was then rolled into wires and heated at moderate temperatures for a few days. This is a very simple manufacturing process for wires and it costs no more than producing ordinary copper wires.

These copper-rich alloys exhibit superconductivity because the niobium atoms form particles uniformly distributed in the copper-tin matrix and are elongated into long filaments after rolling. At this stage, the tin is still dissolved in the copper. By heating (annealing) again, the tin atoms diffuse out of copper and

### SPECIAL NOTICE!!!

Students may attend rehearsals of the L.A. Chamber Orchestra in Beckman Auditorium Saturday from 9:30 a.m. to 12:30 p.m. Please, no eating or talking inside.

pitchers had not the control of Gschwend and Larry Bond, and that Tech often unnecessarily assisted them by swinging at bad balls. Tech beat LIFE earlier this season, contrary to statements by the rewrite man in last week's article.

### Bulldogs RolleOver

Caltech lost to Redlands 12-2 Tuesday After Lunch, owing to a pair of error-ridden innings. Redlands got only two earned runs in the course of the afternoon, but Tech's seven errors helped them enormously.

Tech's two runs scored on a sacrifice fly by Bob Stanley to deep center and on a single by Phil Gschwend, both in the seventh inning. The Beavers face Redlands in a doubleheader this Saturday in Tournament Park.

toward the niobium filaments and form the superconducting niobium-tin compound. Thus, by this simple process, Dr. Tsuei in effect manufactures fine niobium-tin wires inside the copper!

## Extremely Large Dinosaur Found In SW Colorado

A paleontologist from the University of Utah has uncovered the remains of what he thinks may have been the largest dinosaur that ever lived. The April *Science Digest* reports that James A. Jensen uncovered bones belonging to a plant-eating dinosaur of the Stegosaurus family whose size he estimates to be over 50 feet tall, 100 feet long from nose to tail and about 80 tons in weight. These measurements were deduced from a study of two matching shoulder blades, the pelvis and five vertebrae of this creature which he found in southwestern Colorado. "This is by far the most enormous creature ever known to walk upon the earth," he says. "If such an animal were on the earth today, it would have to stoop over to look into a third story window."

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